MODERN EQUIPMENT AND PROCESS NUMBER

OCTOBER, 1931

COTTON

THE TEXTILE MANUFACTURING JOURNAL

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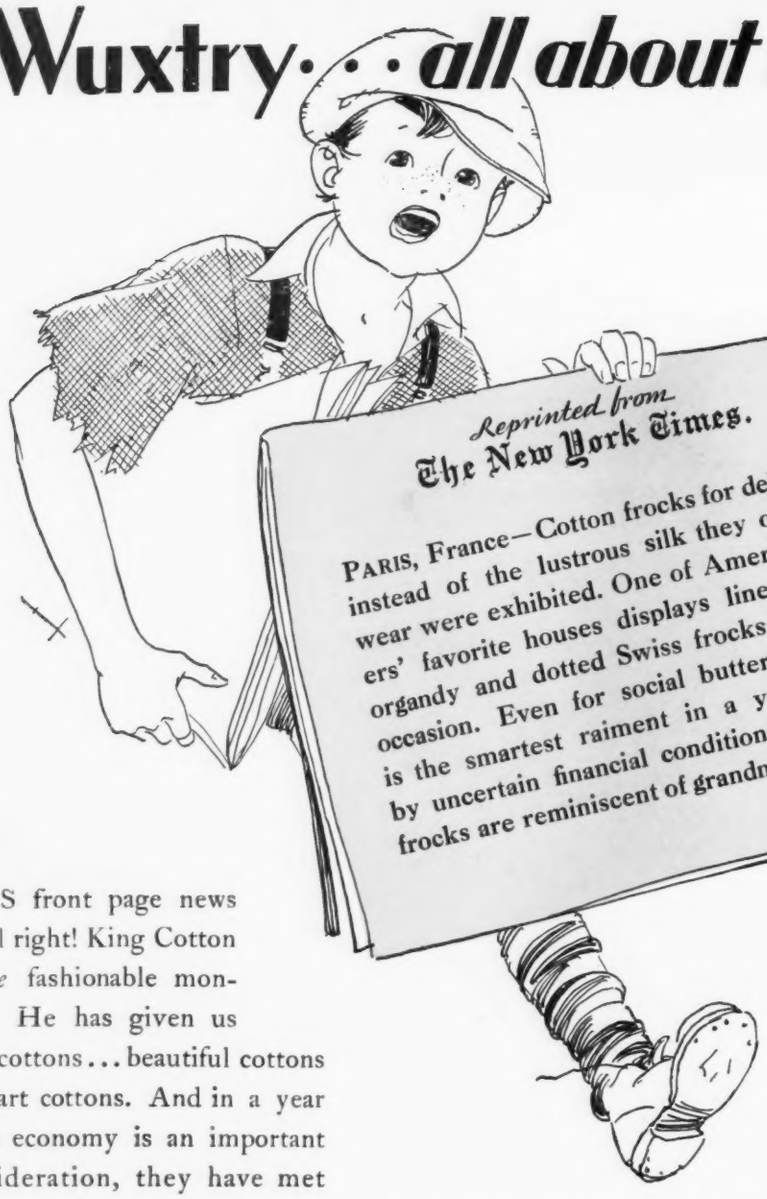
"Wuxtry···all about Kinq Cotton"


Reprinted from
The New York Times.
PARIS, France—Cotton frocks for debutantes instead of the lustrous silk they ordinarily wear were exhibited. One of American buyers' favorite houses displays linen, cotton, organdy and dotted Swiss frocks for every occasion. Even for social butterflies cotton is the smartest raiment in a year marked by uncertain financial conditions. The new frocks are reminiscent of grandmother's garb.

IT'S front page news all right! King Cotton is *the* fashionable monarch. He has given us new cottons... beautiful cottons ...smart cottons. And in a year when economy is an important consideration, they have met with unprecedented success.

But there is more to the story than that. In the last few years cotton manufacturers have successfully introduced new merchandising and advertising methods. Successfully, they have styled their fabrics with increasing skill. Successfully, they have adopted trademarking and identification as indispensable sales allies.

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COTTON is published monthly by W. R. C. Smith Publishing Co., Dalton and Atlanta, Ga. Subscription rates, United States and Possessions, $1.00 per year; Canada, $1.50 per year; Foreign, $2.00 per year Entered as second class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.

Vol. 95 **COTTON** No. 12

October, 1931

W. R. C. SMITH, Publisher
T. W. McALLISTER, Editorial Director

ROBERT W. PHILIP, Editor

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Published Monthly by

W. R. C. SMITH PUBLISHING COMPANY

Atlanta, Ga.

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PUBLISHED MONTHLY
ANNUAL SUBSCRIPTION—$1.00
CANADA—$1.50; FOREIGN—$2.00

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FACTS YOU SHOULD KNOW

on this new method of bleaching . . . .

Bleachers who have not followed the development of hydrogen peroxide in the past 3 years and who are not familiar with the new, perfected *Becco* process are missing many important sales-producing advantages.

For the *Becco* process, correctly used, can give to certain goods a finish not possible with any other method of bleaching. This fact is certified by a number of prominent concerns, *Becco* users. Consider the southern bleacher, for example, who says: "I have built up a mighty profitable volume on voiles. It's all because of the new *Becco* finish—a very notable sales feature. And where I lost 20% on seconds, my seconds are now reduced to a low minimum."

Others, with *Becco*, are accomplishing similar results. One plant bleaches 750,000 yards of colored yarn shirting weekly with negligible losses. Another, last year, bleached twenty million yards of voile—*without losing a single yard.*

The *Becco* process brings increased sales thru a more attractive finish to your fabrics.

So versatile is the *Becco* process, that it can be economically adapted to all kinds of fabrics: voiles, marquisettes, batistes, rayon crepes, osnaburgs, twills and many others. In each instance, it leaves the goods with a soft, attractive feel and ready for any finish. The white is full and permanent; the tensile strength unimpaired.

Call in a *Becco* engineer. Let him demonstrate how *Becco* can save you labor on after-processes and all handling operations; how it conserves water; how it cuts floor space; how it economizes on equipment. A *Becco* demonstration is wholly without cost and in no way interferes with plant routine. Write.

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BUFFALO, NEW YORK

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COTTON

Vol. 95 October, 1931 No. 12

Modern Equipment and Processes

A compilation of brief descriptions of recent developments in textile equipment, processes, supplies, services, etc.

THE TEXTILE INDUSTRY is seeking today, as never before, new ideas, new economies, new processes. This condition exists, of course, in every industry and business of the country, but textiles especially, when manufacturing economies are used in separating cost and selling price, has intensified its search for better and more efficient equipment and method.

The ramified and diversified set-up in this industry, with its several major branches and a multitude of differences within each branch, makes difficult the securing of a complete picture of the industry as a whole by a member of any of its several units. Each individual's compass is restricted largely by the direct interests of his own particular problems.

The title of this issue is the "Modern Equipment and Process Number," and its designed purpose is to reflect broadly what has been done in the various branches of textiles in the development of new machinery, new applications, new processes and new services during the past two years.

In an article, "A New Era in Textiles and Its Demands Upon the Industry", which appeared in the August issue of COTTON, a prominent mill executive stated significantly that "the machine builders have turned to the development of new models that would offer sufficient saving in labor to induce mills to replace old machinery and secure a cost advantage that would better qualify them to meet the intense price competition that was being felt."

Applied broadly, every other industry rendering service to the textile industry by supplying its equipment, processes and other services, has undoubtedly utilized the recent period of decreased demand for new developments.

It is of course self-evident that, due to the physical limitations of time and space, an absolutely complete presentation of every new development having a bearing upon textile manufacture could not reasonably be presented. In securing the special material for this issue, requests were made of as complete a list as could be compiled of those concerns serving the industry, for descriptive material referring to new developments.

In the thirty-odd pages immediately following, which are devoted to this special theme, will be found a very comprehensive compilation of descriptions of this kind, based upon the information furnished in response to these requests. While the usual articles of a general character occupying this portion of the magazine were necessarily omitted to provide for this section, it is felt that this feature will be of unusual interest and value to the reader—in providing, conveniently and compactly, a review of most of the new developments in his own branch of the industry and in the others as well.

For classification and convenience, the material thus collected has been grouped under ten main headings, and will thus be found. The first deals with some of the major General Developments.

The next is Mill Processes and Machinery, which covers, opening, picking, cotton handling, drawing frames, long draft and large package spinning, weaving machines and accessories, cloth room, etc. The third section is devoted to Winding, Twisting, Redraw Machines, and similar equipment. Accessories and Supplies, such as counters, rolls, measuring devices, stop motions, belts, regulators, etc., etc., are covered next.

Dyeing, Bleaching and Finishing developments are described in the next section. Then come the Chemical and Sizing Materials of various kinds. Sewing Machines, and Similar Equipment are next.

Developments in Power Generation, Transmission, Drives and Electrical Equipment are of especial interest to all phases of the textile industry in view of its tremendous use of this type of equipment in its processes and plants. This, then, is the next group of subjects covered.

General Factory and Shop Equipment represents another important subject for the textile plant, and this is the heading of the next section. Knitting—Braiding and Allied Lines completes the classification.

Depending upon one's interests and position, the amount of this material which is already familiar to different readers will vary. As a compilation, however, it should be of especial immediate interest; and should prove useful if filed for later reference.

General Developments

Including trends in yarn improvement, textile lighting, samples, office equipment, humidifying, etc. . . .

Development of Durene Yarns, By E. L. Starr, Director-Treasurer.

While much needed and significantly successful in nearly every industry in times of prosperity, the soundly managed trade association is even more deeply indispensable in time of economic depression. I can offer no better proof of this than the results which I have seen built by the Durene Association of America during the past year. Industry-wide confidence has been maintained in the face of widespread gloom.

The American mercerizers and co-operating industries—knitters, weavers and garment makers—have been supplied with a continuously stimulating new approach to their public.

Retail stores have been aided. The consumers themselves have been given better styled, quality guaranteed and identified merchandise.

Every factor of the trade partaking of our assistance has prospered in the promotion of quality cotton over and against former years of national and international prosperity.

It is hardly within the realm of logic to believe that anything short of a miracle would have caused this had there been no industry-wide building program and an organization to carry it out.

It is now widely appreciated that durene cotton is quality mercerized cotton, so re-christened in order to make more convenient the assurance of yarn guaranteed fabrics and garments in the cotton category.

The national industry which stands behind the unified quality in durene cotton yarns is the only one in the country thus maintaining an industry-wide standard of textile production. As a result, the output of durene cotton, to the contrary of other basic textiles, is uniform in strength, luster, absorptiveness, porousness and attractiveness.

These qualities naturally adapt this textile particularly to plain and novelty meshes, jerseys, broadcloths, oxfords, embroideries, nets and laces—the leading "new uses" developed by various houses upon the advice of the Durene Association during the past year. Observers believe, however, that the field of "new uses" has by no means been exhausted.

Among the materials already appearing for fall 1931 in the durene cotton classifications are "mixtures" combining this softly sparkling processed cotton yarn with wool and worsted—not for the purpose of cheapening the wool but for the precise purpose of making it more attractive by means of added effectiveness of luster, strength and dual-dyeing possibilities.

It is interesting to look backward for a moment to the previous history of mercerization. Mercerized yarns were first imported to the United States by decorative fabric makers wishing strong warps. Durene still plays an important role in innumerable upholstery and decorative materials, but in addition to its strengthening qualities its beauty is also being utilized today in face designs and motifs.

Gradually the underwear and hosiery manufacturers took it up, and then for some years they remained, as in fact they do today, the major consumers in actual poundage. However, though long enjoying volume sales in the knitting field, mercerized cotton—under the somewhat uninviting and not closely defined name—never had a very "conscious" public acceptance. Construction terms, such as lisle, were frequently, if incorrectly, used as quality designations. A little over a year ago a majority of the members of the mercerizing industry in the United States agreed that the excellent qualities of fine mercerized cotton (depth of surface, low luster, porousness, absorptiveness, great strength, 20% greater than unprocessed cotton, and excellent dyeability) should be so stabilized, identified, and promoted as to attract the consumers' conscious demand. Thus the durene standard and the Durene Association of America were formed.

:: :: ::

Tendencies in Textile Lighting.

Recent years have brought marked improvement in the lighting of textile plants. From the flat open reflectors and even bare lamps of a decade ago, have come decided changes in the lighting units. The combination of an enameled reflector with an opal globe enclosing a Mazda lamp has brought not only greater eye comfort through the reduction of glare, but illumination which is actually much better from a purely utilitarian standpoint—one which produces softer shadows, in combination with higher intensities. Flexibility of location and operation, two outstanding features of the incandescent lamp, have contributed greatly to the improved conditions.

Of recent years much has been heard of the invisible radiation called ultraviolet. Health units galore, especially the carbon-arc types, were purchased by the public as the key to life-long health and often cures of disease were anticipated. Practically, the basis for health maintenance through the use of ultraviolet is the production of artificial sunshine—the exposure of the body to the biologically effective wave lengths. Hence the outstanding development during recent years has been the combination of an ultraviolet source with the ordinary Mazda lamp filament, thus providing health-maintaining radiation with light. As would be expected, these new sources were first widely employed in home health units but were soon incorporated in fixtures which could be used in the office and other places where the workers required light for their daily tasks and the provision also of an ultraviolet source was a logical addition.

Thus the so-called dual-purpose lighting came into being. Although it is more widely used at the present time in rest rooms, recreational areas and offices, lighting equipment manufacturers are busily engaged in the development of units which will extend the application of the new lighting into manufacturing plants. As with standard lighting units, designs which will give comfortable vision must be made

Dual Purpose Sunlamp.

available and it is not to be expected that perfect designs will be produced overnight. Yet right now the textile industry should give consideration to this dual-purpose lighting for its offices and rest rooms. Developments in types of fixtures suitable for use in the factory areas will be anticipated with great interest. The near future will bring the indoor worker lighting which not only is effective from the standpoints of eye comfort, increased production and decreased accidents, but which at the same time will contribute to the worker's happiness and efficiency through better maintenance of his health.

General Electric Company, Nela Park Engineering Department, Cleveland, Ohio.

:: :: ::

New Developments in Bemberg.

During the past year developments in Bemberg yarns have been concentrated largely in the fine denier ranges to meet increasing demand for fine denier sizes by manufacturers of fabrics, undergarments and hosiery. Notable is progress made in the field of full-fashioned hosiery. A year ago the greatest volume of yarn used commercially was 150 denier chiefly on 39-gauge machines, with occasional experiment with 120 denier yarns and 42 gauge machines. Today 120 denier yarns on 42-gauge machines are used in the greatest volume, with several manufacturers experimenting with 80 and 100 denier yarns on 45-gauge machines. The trend toward finer deniers and finer gauges parallels the trend of Bemberg in the full-fashioned hosiery field abroad and the trend of pure silk in this country.

Several outstanding manufacturers have had unusual success with mesh hosiery of Bemberg, and one manufacturer has developed an interesting sports stocking combining Bemberg with wool.

Sheer silk stockings using Bemberg in the welt and feet presented a problem of dyeing and finishing which was solved recently through collaborative research of American Bemberg Corpor-

ation and dyestuff manufacturers. Because Bemberg and silk take the same dye differently, and because two dye baths to obtain perfect color match is impractical commercially, it was essential that proper dyestuffs and proper technique be applied whereby one dye bath serve the purpose. This accomplished, the availability of cuprammonium yarns for full fashioned hosiery was greatly increased.

The use of warp knit fabrics in the underwear field also presented new dyeing problems. Whereas these fabrics had been used for some time in monotone undergarments, the pajama vogue which introduced contrasting color combinations in the same garment necessitated finding new and economical ways and means for dyeing. This problem was again solved through cooperative efforts of the technical staffs of American Bemberg Corporation and dyestuffs manufacturers.

Fine deniers also play an important role in this field. Until recently 52 denier yarns were the finest used in warp knit fabrics. Now, for the first time, 30 and 40 denier yarns are being used successfully on warp knit machines. This same trend is apparent also in circular knit fabrics where up to this time 150 denier has been the principal size used. With the introduction of finer gauge machines both 120 denier and 100 denier yarn are being widely used on circular knit machines.

During the past year also boucle yarn has been made of Bemberg for bathing suits, cuprammonium yarn providing strength, resistance to water, and the appearance achieved with pure silk fiber. The successful development of Bemberg boucle is significant from the style angle, teh use of fine boucle yarns in various fields, especially for sportswear, being definitely on the upcurve.

Following perfection last year of a 30,000-meter skein, further improvement in the mechanics of handling and the technique of manufacturing the long skein has made possible the spinning of 45,000-meter skeins. Further, the lacings on the skeins and the technique of handling in dyeing has been satisfactorily worked out with skein dye establishments.

American Bemberg Corp., New York City.

Billing and Bookkeeping Machines.

A recent installation of billing and bookkeeping machines in the general offices of the Pepperell Manufacturing Company, at Boston, Mass., is of interest. The installation of eight machines is used on stock records, billings, and accounts receivable. Increased efficiency and reduced costs in securing a control of raw material, stock in process and finished material are achieved, it is stated. For accuracy on all invoices, the billing machines add yardage, extend and print the amount on every line and accumulate the individual items for the total of the bill. These extensions are then checked on electric calculators. The typewriter bookkeeping machines give a proven daily record of all balances with each customer, and the total outstanding balances due from all customers.

Burroughs Adding Machine Co., Detroit, Michigan.

:: :: ::

Automatic Airchanger.

Cooling by evaporation is the principle employed in a new system of air conditioning called the ParkSpray automatic airchanger. Ventilation is automatically controlled so as to obtain the maximum evaporative cooling effect from a direct moisture humidifying system. It is explained that the humidifier heads in a room should be kept running as much of the time as possible during hot weather. If this were done with insufficent ventilation, to balance the evaporative capacity of the humidifiers, the humidity and temperature in the room would soon become unbearably high. On the other hand, if too much ventilation were supplied, the relative humidity would fall off. Temperatures would also be considerably higher during hot, dry weather. A unique system of control is employed by the airchanger. Humidifiers and fans are started and stopped, and ventilating dampers opened and closed by the humidity regulator. This means of regulation maintains in the mill, it is pointed out, the lowest possible temperatures by balancing evaporation with air change and maintaining continual air circulation. Mill heating is sometimes incorporated with and automatically controlled by the same apparatus. In one installation, it is described, before the system was put into operation, the temperature in the spinning room was 90 degrees F. and the humidity was 40 per cent; after installing, the humidity was quickly raised to 65 per cent, and twenty minutes later the temperature was reduced to 74 degrees F.

Parks-Cramer Company, Fitchburg, Mass.

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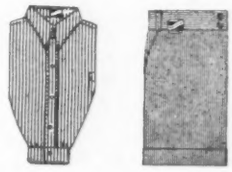
Miniature Garments.

An innovation in sampling textile merchandise has been brought into the cutting-up field, in the form of making up miniature garments of any given fabric, instead of submitting head-ends. The small garments are fashioned so



they show the collar, front and sleeve finish of a shirt; the front, pocket and any other distinctive features of pajama coats; the waist, front, pocket finish and bottom of pants, etc. This permits the carrying of samples of a full line, in small space, and showing how the material looks when made up, it is pointed out, as well as a saving in cloth.

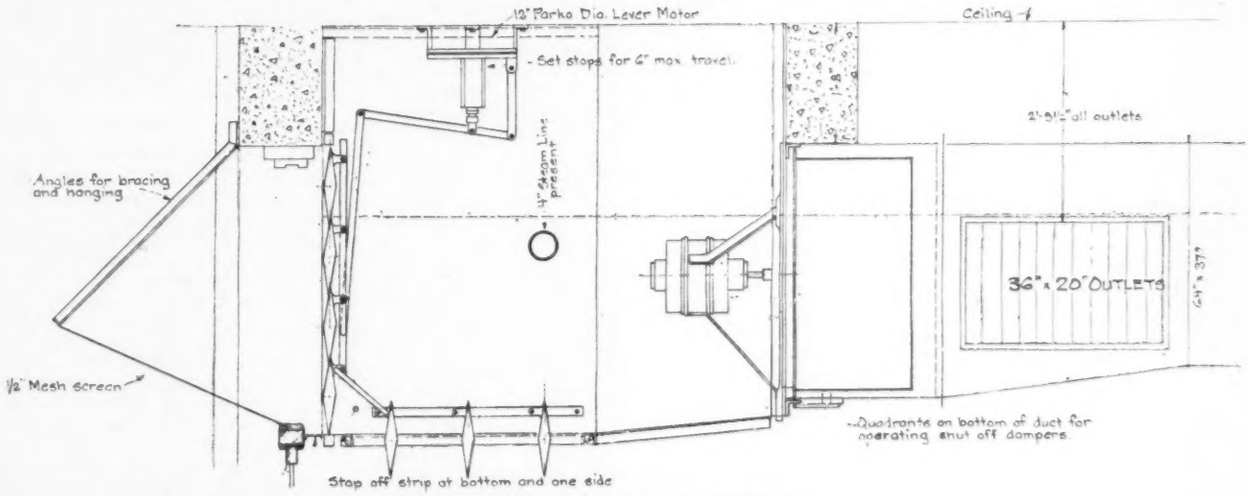
Minatex Sample Co. 719 Santa Fe Bldg., Dallas, Texas.

:: :: ::

DuPont Produces Rayon Staple for Spinning.

Rayon staple, to be spun into fine count yarns, is a new and revolutionary development in rayon manufacturing. It is being used especially in light-weight cloths that cover volume in the women's apparel field. This specially made rayon staple, it is pointed out, is constant in denier and uniform in length, dyes with ordinary viscose process rayon dyes, and when spun, has a rich underglow, with soft, subdued luster.

DuPont Rayon Company, viscose process department, Empire State Building, New York City.


12" Parko Dia. Lever Motor
Ceiling
- Set stops for 6" max. travel.
2'-9½" all outlets
4" Gauge Line present
Angles for bracing and hanging
36" x 20" OUTLETS
64" x 37"
½" Mesh screen
Quadrants on bottom of duct for operating shut off dampers.
Stop off strip at bottom and one side

Cross-Section of Automatic Airchanger.

Developments in Humidifying System.

Several new features have been developed in a humidifying system for creating a predetermined percentage of relative humidity and maintaining it within definite limits. The system combines operating at low air pressure with a high evaporative capacity at each humidifier head, which is automatic, it is pointed out. A motor driven air compressor is installed to furnish air at 20 pounds gauge pressure, fitted with an unloading device to pump air only in sufficient quantities, it is explained. A pipe line is carried to and through the room to the humidifier heads. The pipe line for the water supply is similarly brought over and carried with the air line to the heads.

The head consists of a vaporizing chamber where the air meets the water, breaking it up and expelling it through the nozzles. Inside the head is a diaphragm, which in its normal position seats over the water inlet port to prevent water from entering the head when the air is not on. Incoming air lifts the diaphragm from the water port, allowing the water to enter. It is pointed out that evaporative capacity of the heads may be increased by increasing the water pressure only, the water coming directly from the mill supply, and the operating pressure controlled by a small water pressure valve in each section.

An automatic humidity control consists of an eight-day clock which records the humidity on a weekly chart. The actuating element is human hair, connected to a balance system operating a recording arm and contact arm. Each instrument is wired directly to the room lighting current. Setting of the controller is changed by a thumb screw affecting the contact arm to make the electric contact earlier or later.

R. I. Humidifier & Ventilating Co., 99 Chauncy St., Boston, Mass.

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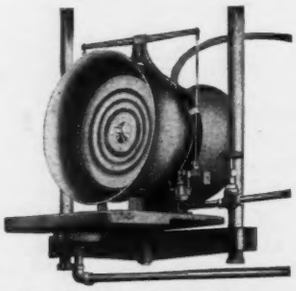
Controlled Humidification.

A humidifier head has been developed, in which the grid and discs are of nickel alloy steel, non-corrosive, in



Southworth Humidifier.

which the water is delivered on the front of the disc, thus requiring practically no cleaning, it is stated. A sensitive control for maintaining the proper percentage of humidity as desired is available. The instrument may be cleaned without disassembling.

Southworth Machine Company, Portland, Maine.

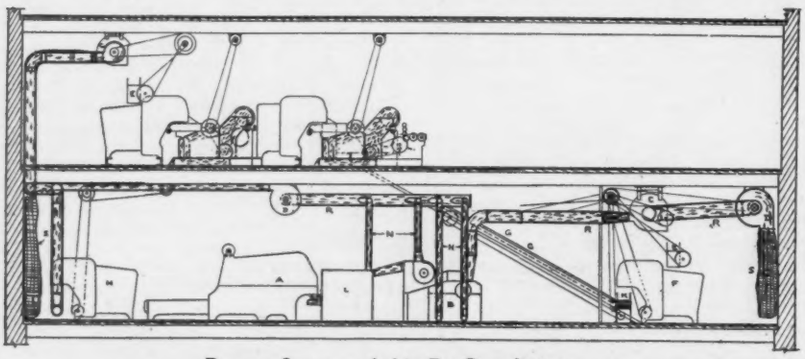
Mill Processes and Machinery

Covering opening, picking, cotton handling, drawing frames, long draft and large package spinning, weaving machines and accessories, cloth room, etc. . . . .

Rogers System of Re-Circulating Air in Opening and Picker Rooms.

For maintaining stabilized atmospheric conditions in the opener and picker room, and for securing a fixed regain in the stock, the Rogers system re-circulates the same air without any loss of moisture content. Dust and light floating impurities are removed by the action of the beaters in the cleaning machines. These floating impurities are removed through dust collecting pipes *n* (see illustration) which discharge into the main dust pipe *r*. This dust pipe is connected to the suction side of the fan *d*, the discharge of the fan being connected to the bag filter *s*. As the air passes through the filter, the impurities are left behind, the air emerging practically free from dust, with unchanged moisture content, it is explained. In the picker room, the pickers are raised eight inches from the floor by means of steel I-beams; between these beams metal walls are built in, making an air tight space or chamber under beater box and cage section. The picker fans are discharged into these air spaces, no dust room being used. Further, it is pointed out, as the discharge head on the fan is lessened, and the back pressure eliminated, the fans can run at reduced speeds which tends to save power as well as present a better distribution of stock on the screens. The fan draws the air through the screens of the picker into the suction of the fan, and discharges into the metal air chamber under the picker unit. The air then passes through the air inlet at the top of the beater box, and on to the cage section, where the cycle starts again.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.



Rogers System of Air Re-Circulation.

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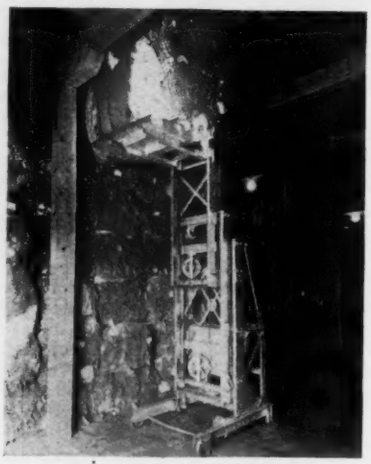
Portable Cotton Stacking Machine.

A new design electric telescoper is shown herewith, in use at a large southern mill in handling cotton bales. The telescoper is equipped with two sliding frames, providing a minimum height of 6 feet 10 inches, and a maximum



Portable Cotton Stacker.

height of 14 feet 4 inches. The machine, equipped with a ½ hp. 110 volt, single phase, 60 cycle, a. c. motor, operates from a lamp socket. The platform travels in both the up and down directions at slightly better than 10 feet per minute.

Economy Engineering Company, 2635 West Van Buren St., Chicago, Ill.

:: :: ::

Improvements in Casablancas Long Draft Spinning System.

Several improvements are noted in the Whitin-Casablancas system of long draft spinning. The adoption of a newly designed wide cradle allows a full roving traverse for frames of all gauges. A new self-cleaning band bar, used to support the front ends of the two bands used in this system, eliminates the pins formerly used which, it is pointed out, collected cotton, causing the bands to become tight, and making it necessary to clean this item every four weeks. With the new self-cleaning band bars, it is explained, cleaning is necessary only when the frame is scoured. Easier cleaning is assured by simplifying, through re-design, the cradles, back bars, and top

rolls. Hardened steel draft gearing is used to prevent chattering and vibration.

Another item of interest is that the adaptation of the Whitin-Casablancas system of long draft spinning is being experimented with on roving and intermediate frames.

Whitin Machine Works, Whitinsville, Mass.

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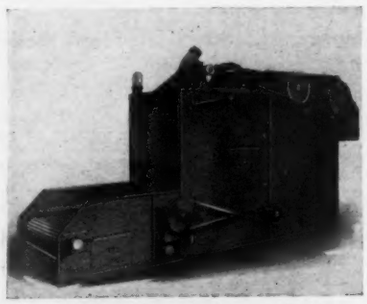
Cleaning and Blending Feeder.

A revolutionary development is a cleaning and blending feeder, which is self-contained, even as regards motor and dust fan. The material is heavy



F-7 Cleaning and Blending Feeder.

steel plate. No castings are use, and no oil holes. The machine is designed primarily to effect adequate blending of present-day irregular staple, removing a substantial amount of heavy dirt and trash during the opening process.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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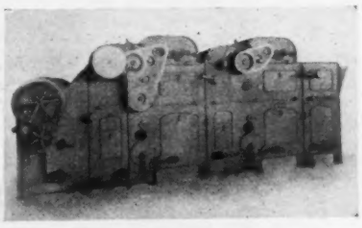
New Model Hopper Feeder.

Although nearly every type of opening, cleaning and picking machinery has within recent years been re-designed and improved, there have been few improvements made in the hopper feeder. As all preparatory regulation depends on the accuracy of this unit to produce a level and even sheet of cotton within close working limits, its importance to spinning cannot be over-



New Hopper Feeder.

estimated. A new hopper feeder has been especially designed to meet these requirements and at the same time give the cotton a gentle but thorough combing process, preserving the staple and semi-paralleling the fibers. The machine is built in single, double, and triple sections, and all frame sides are designed to connect to standard opening, cleaning and picking units.

All lattice shaft bearings are of the self-aligning type to insure accurate alignment with the shafts, and all slats of the combing lattice are re-inforced with steel strips to prevent wear and damage. The adjustment of the comb regulating lattice relative to the inclined spiked elevating lattice is designed so that this lattice can be quickly moved to regulate the amount of material passing through the machine. An exceptionally large bin area is provided for filling with lofty, well opened cotton, making possible with feed controls close regulation by volume. Perforated sheet steel casing is arranged under the spiked elevating lattice for removing sand, dirt and light leaf, also a continuous gridded cleaning surface from the doffing beater to the adjacent cage section.

H. & B. American Machine Co., Pawtucket, R. I.

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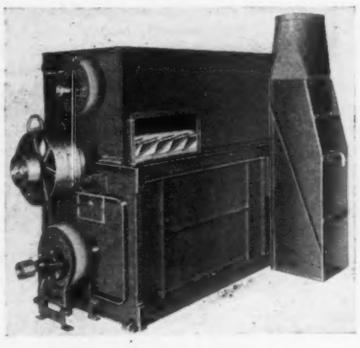
Cleaning System for Long Staples.

A new model cleaning system has been developed especially for opening and cleaning Sakel, Pima and other long stapled cottons. The main cylinder is fitted with new type, patented brass beaters, the effect of which is to open the cotton and prevent the formation of loops as the cotton is struck by the working face of the beaters, and to eliminate rolling of the cotton between the ends of the beaters and the cleaning screen. These brass beaters will not cause sparks when striking hard materials in the cotton.

A new type corrugated cleaning screen removes 25 per cent more refuse than the former plain screen, it is stated. A dust removal hood is fitted just below the cleaning screen and con-



For Cleaning Long Staples.

nected to a ball bearing exhaust fan driven from the main cylinder shaft. The air drawn through the screen draws out a great deal of powdered leaf and dust which would otherwise pass on through the cleaner with the cotton.

A new type open fiber control fan is built in the feed end of the cleaner top. This fan sends a 4½-inch diameter air current through the extreme upper section of the cleaner, and the effect is to send the opened fibers forward as they are loosened from the mass, and thus stop the excessive beating of these fibers.

The opened cotton and hard foreign substances too large to pass downward through the screen with the motes, dirt and dust, are thrown direct from the cleaner proper into a patented vertical adjustable separator which removes rocks, glass, buckles, heavy seed and all other hard materials heavier than the cotton, these materials falling to the bottom of the separator and the cotton passing upward to the trunk line pipe. In removing these materials, the separator effects a material reduction in the upkeep cost of pickers as well as in their operating fire hazard.

The complete system occupies a space of three feet 5 inches X 7 feet 6 inches, and requires less than 5 hp. in handling up to 1,500 pounds of cotton per hour. The main cylinder is carried in 2 15/16-inch SKF ball bearings. Heavy rubber blocks are placed between the bearing surface and the bottom of the ball bearings in which the main beater is carried. The effect of this is to reduce vibration in the machine to the absolute minimum and to increase the life of the ball bearings far beyond the life of ball bearings mounted on solid support. All other parts are so heavily built as to make the machine practically indestructible. The top cover is hinged, and loosening five nuts and raising the cover is all that is necessary in getting to the cylinder and screen.

The Centrif-Air Machine Co., Inc., Atlanta, Ga.

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Automatic Return Type Mixing and Cleaning Distributor.

A new automatic return type mixing and cleaning distributor, and G-E electric control for supplying cotton to the feed hoppers of pickers and automatically stopping and starting the motor driving the blending hoppers or bale breaker delivering cotton to the cleaning machines in the opener room, has been announced.

Essentially, it consists of a double steel trough fitted with sprockets, chains and rakes for conveying the cotton from the overhead condenser to the picker hoppers. As cotton falls from the condenser it slides down to the lower trough and the rakes carry it along this trough to the delivery chutes feeding the hoppers. As the cotton in each hopper rises sufficiently it stops delivery from the bottom of the chute and the rakes convey the cotton to the next delivery chute until all of the hoppers are filled. The rakes carry any excess cotton around the closed end of the distributor to the upper trough and convey it back to the receiving or feed end to be mixed with other cotton coming from the condenser.

When excess cotton is brought to the upper trough by the rakes it raises a feeler mechanism which operates a limit switch, definite time relay, contactor and magnetic switch to stop the motor driving the blending hoppers or bale breaker. When the relay has completed its timing cycle, the motor is automatically started. The timing cycle of the relay is set to keep the motor stopped long enough for the distributor to deliver the excess cotton in the troughs to the picker hoppers.

Actual operating tests in the mills where this new return type distributor is being used show that there is much less variation in the height of the cotton in the picker hoppers than is the case where feeler mechanisms and switches are operated from the hoppers.

In addition to maintaining the cotton at a more uniform level in the picker hoppers and insuring more even laps, this new type distributor actually mixes and cleans the cotton in bringing it from the condenser to the picker hoppers, and takes out a great deal of small leaf particles and short fly which go on to the hoppers, pickers and cards where belt or lattice distributors are used.

In mills where it is used, it is pointed out, there is no unsightly overflow at the end to be gathered up and thrown at random into the first convenient hopper, the delivery from the hoppers to the pickers is more uniform, labor cost is reduced, and the pickers are delivering cleaner and evener laps. The feeler mechanism and G-E automatic electric control can also be supplied for use in connection with single trough, non-return type rake distributors.

The Centrif-Air Machine Co., Inc., Atlanta, Ga.

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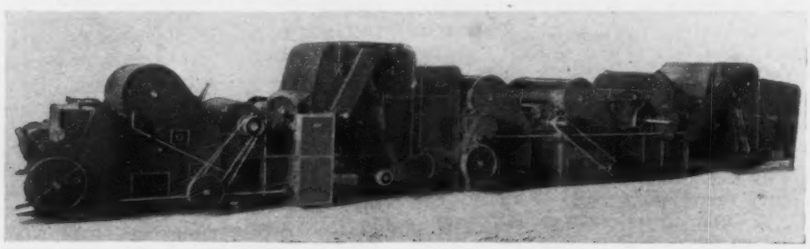
One-Process Picker.

In the new one-process picker, the improved evener motion, intermediate feeder, newly designed grid bars, play an important part in producing results,



One-Process Picker with Improved Evener.

it is pointed out. The incorporation of the picker in a system provided with adequate cleaning machinery and proper distribution equipment, all synchronized by electric control, has produced new standards of results, the manufacturers state.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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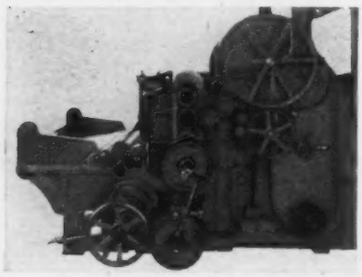
Automatic Self Doffing Calender.

An automatic self-doffing calender for pickers, invented by Thomas S. Ramsdell, of the Monument Mills, Housatonic, Mass., allows a continuous flow of cotton through the picking machine. With the customary picker calender, it is explained, the entire ma-



Ramsdell Self-Doffing Calender.

chine comes to an abrupt stop every five or six minutes, and, when the machine is stopped for doffing, the cotton in transit through the beater and grid bar areas is drawn to or piled up on the cage sections. With the self-doffing calender, it is explained, the cotton flows constantly through the machine, and there is no perceptible variation in the yard per yard weight from the beginning to the end of a lap. The following eight automatic operations take place in six and a half seconds: Releasing brake, raising lap racks, severing lap sheet, doffing finished lap, placing new lap in roll, folding lap end, lowering lap racks, and re-setting brake. An increase of 10 per cent in production, and fewer hands in the room, are claimed, as well as less horsepower due to the elimination of starting torque.

H. & B. American Machine Co., Pawtucket, R. I.

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Large Package, Long Traverse Spinning.

New large package, long traverse spinning frames incorporate, among other features, the following: The gauge runs from 3½ to 4½-inch in width. The rings run from 2-inch to 2¾-inch. The frames spin from 30s to 80s, using traverses varying from 7½-inch to 9-inch. The frames are tape driven and are equipped with a patented reverse twist drive, which allows changing from regular to reverse twist by two operations. As an added feature to keep the frames cleaner guard plates have been placed behind all spindles. The frames are equipped with an entirely new head end, the doors swinging well back out of the way, and are equipped with push button control, making use of an electrical panel lock which prevents the frame from starting when the doors are open, and automatically stops the frame if the doors are opened while the machine is running.

Whitin Machine Works, Whitinsville, Mass.

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New One-Process Picker.

Early this year a new and novel one-process picker, without an intermediate hopper feeder back of the finisher section, was introduced. It is pointed out that at no time is the formation of the processed sheet destroyed; the full width feed being obtained at all times. Several new features have been introduced, one being the reversing of the in direct ratio to the thickness of cotton passing between the evener pedals and the feed roller.

The machine is fitted with two highly sensitive eveners, one operating as described, and the other regulating the speed of the inclined spiked apron in the automatic hopper feeder. The feeder is equipped with a special reserve box or regulating chamber, whereby all surplus cotton is passed back of the spiked apron and returned again to the hopper. The completed machine has three beaters, the first being of the Buckley or striking type, and the other two a patented combination of blade and carding type.

H. & B. American Machine Co., Pawtucket, R. I.

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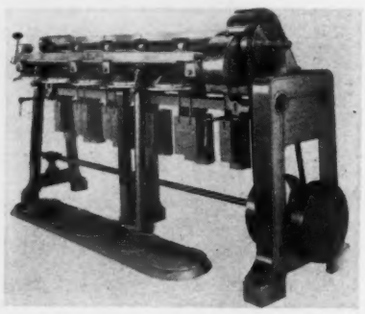
Improved Mechanical Stop Motion Drawing Frame.

A new mechanical stop motion drawing frame has just been placed on the market. While complete details of the



Mechanical Stop Motion Drawing.

machine are not yet available, it is understood to have a number of special features. All covers are polished sheet steel, all gearing and shafts completely incased, and all bearings of the adjustable type. A special form of top clearer has been introduced whereby the flannel can easily be replaced in case of wear. The tension between the front and calender rolls is regulated by fine pitch gearing designed to reduce stretch.

H. & B. American Machine Co., Pawtucket, R. I.

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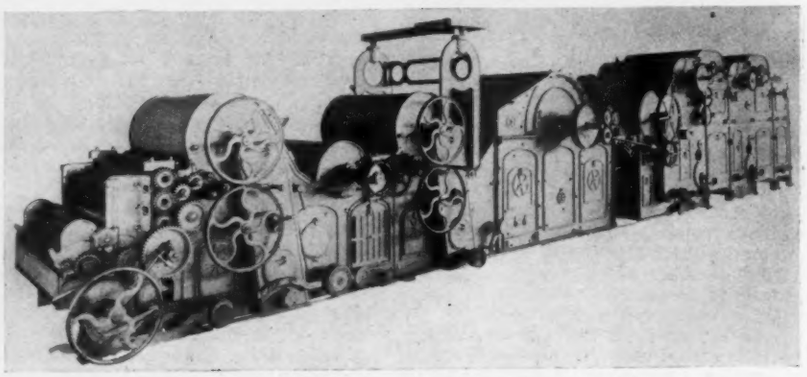
High Drafting on Spinning Frames.

Several new features in the application of the four-roller arrangement for rolls on spinning frames are interest-



One-Process Picker without Intermediate Feeder.

position of the cone drums, and driving the calender directly through the top cone so as to obtain a variable speed ing. As applied to spinning frames, the arrangement is of the self-weighted type, with highly polished top rolls for

the second, third, and fourth lines, the weight and diameter of the second top roll varying according to the number of yarn spun. The makers claim that for medium and fine counts, the four-roller system will allow for 50 per cent higher drafts, with as good yarn as regards strength and regularity. The use of a cheaper cotton is also possible, it is stated, using the high draft arrangement on ring frames with normal draft. Since the short fibers are positively controlled, it is stated, there is but a slight increase in the amount of fly or waste.

H. & B. American Machine Co., Pawtucket, R. I.

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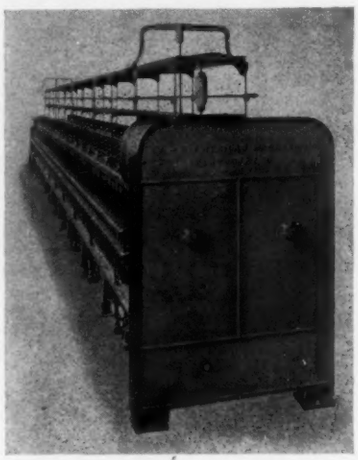
Large Package Spinning Frame.

The outstanding features of a new large package spinning frame, as listed by the manufacturers, are: an unusually heavy framing capable of adjustment to meet varying spinning conditions; extra wide-faced gears; and increased bearing surfaces to give greater stability at high speeds. With the driving cylinder centrally located, a patent reversible tape spindle driving arrangement was applied whereby the



Large Package Frame.

spindles can be driven in either direction without altering the position of the jockey or tension pulleys. The arrangement is extremely sensitive. A special traversing thread board was adopted to assist in balancing the traveler to compensate for the varying positions of the ring rail.

All creel boards have metal-bound edges to prevent wear and chipping. A roving traverse motion is provided for each side of the frame with double worm and worm gear; and all gearing is totally enclosed, the head end section being fitted with hinged doors and safety locking devices. The ring rails are of the interlocking type and jointed at each lifting rod. The builder motion is of a new pattern arranged for warp, filling, or combination wind. The cams are driven by means of worm and worm gears, thus eliminating all back lash. An adjustable bottom forming attachment with taper regulator is a part of the standard equipment. The gears and bearings are oiled from outside of the frame through tubes fitted with patent oil cups.

It is stated that frames fitted with 2½-inch rings, 9-inch traverse, are spinning 32s soft twisted yarn, with a spindle speed of 7,000 r.p.m., and winding 11,525 yards per bobbin against 5,000 yards formerly obtained.

H. & B. American Machine Co., Pawtucket, R. I.

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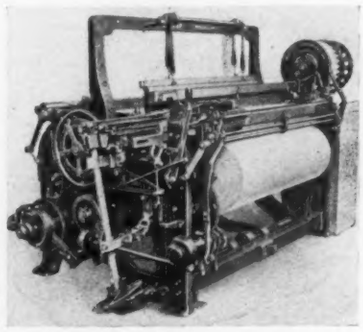
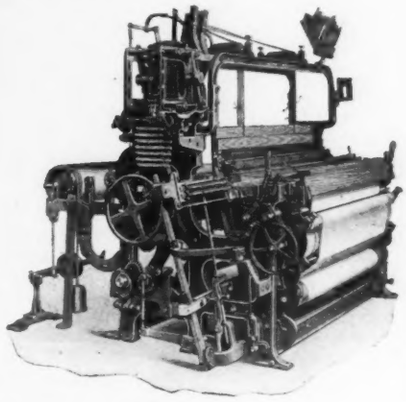
New Draper Looms and Other Equipment.

The outstanding recent development by Draper Corporation was the X Model loom, which was first shown at the Greenville show in 1930. An increased product, attained by its ability to run at a much higher speed than older models of automatic looms, was the aim



New X Model Draper Loom.

sought. It is a new model in every particular, the manufacturers point out. The latest ideas in the whole field of modern machine building being adopted wherever they could be applied in loom construction; and with these many improvements worked out by the company's research and experimental departments. The loom is being operated at 190 and 200 picks a minute,



S-5 Silk Loom.

with little or no loss in the number of looms to the weaver, it is pointed out.

For rayon weaving, several of the regular models of Northrop looms have been adapted to the majority of rayon weaves. These models are built according to the range of weaves to be covered, with modified devices and mechanisms recently developed.

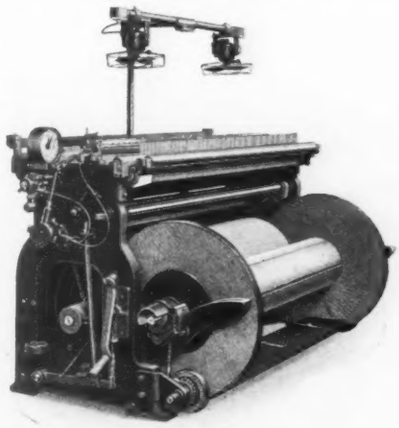
A new silk loom, the Model S-5, has been brought out, and several improvements made in the mechanisms of this and the older models.

For Northrop looms there is a new shuttle designed to thread up more easily, being less likely to unthread. It has new eyes of both the brass and cast iron types, and a new shuttle spring.

A new bobbin finish, the No. 200, was also developed.

The Draper high speed warper was designed to run at any speed the modern magazine creels will allow.

The centrifugal clutch spindle, with new Stimpson patent clutch, was de-



High Speed Warper.

signed to wear as long and run as true as a solid whorl spindle. A new Mirror spinning ring was developed, with which, it is pointed out, new rings can be started with the same traveler used

Sectional View of Centrifugal Clutch Spindle.

on old ones, or at times even with a heavier traveler.

In connection with improvements in the design and construction of looms, the company states, special attention has been given to better mixtures of iron to increase strength and wearing qualities of the parts, which are available as repairs as well as being sent out on new looms.

Draper Corporation, Hopedale, Mass.

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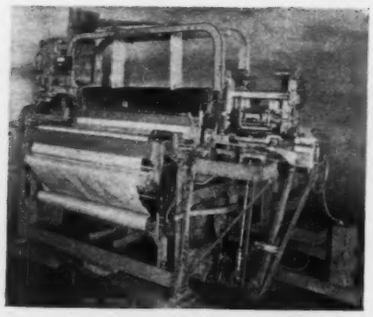
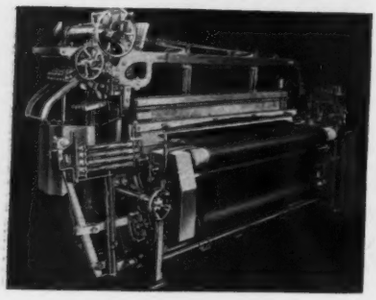
New "Family" of C. & K. Looms.

Within the past two years an entire new "family" of looms has been conceived, constructed and marketed by Crompton & Knowles. It is significant that not one single part which was used in the construction of the looms previously is incorporated in the present "family." All of the looms have been simplified, with fewer parts than previously, and parts are machined, and much has been accomplished in simplifying methods of adjusting for wear, etc. The Cotton King loom made in a number of styles—always automatic—is one of the new developments. It can have a cam, dobby, or Jacquard harness motion. It is built with 2x1 box or 4x1 box, bobbin-changing mechanism, and 2x1 box or 1x1 box, shuttle changing mechanism. The shuttle changing type, as well as the bobbin



2x1 Shuttle Changing Loom.



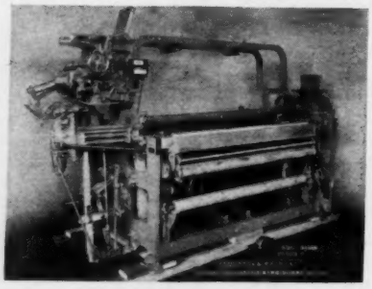
Worsted Loom.

changing loom, replenishes the filling while the loom is in motion. This family of looms was designed and built on the same frame and have the same parts, except for those necessarily different. The high speed worsted loom is built 4x1 box, automatic, or 4x4 box, non-automatic. It is stated that with the new loom, standard weight worsteds are woven at speeds as high as 154 picks per minute, with six looms per weaver, as against 112 picks per minute with two to three looms per weaver previously. A new type of loomside grinding is used in the new line, the loomsides being bored and reamed in pairs and all surfaces, where parts attach, ground to precise dimensions.

The Super Silk loom, with box capacity either 2x1 or 4x1, is the most recent development. It is hoped later in the year to offer the shuttle-changing mechanism for either 1x1 or 2x1 box for application to this loom. Among the improved features of design is a new drive, with three-point suspension motor, and brake drum with internal expansion clutch. The crank and bottom shaft gears are each in two pieces so that the tooth rim may be moved on the hub to allow for wear or the rim may be replaced for breakage, without removing the hub.

On the drive end of the take-up, the gears are all cut tooth, as elsewhere, and in the take-up the faces have been widened. The intermediate gear and pinion are on a short shaft extending from the take-up bracket to the loom side. There are shims in the bearing for the take-up drum. The removable lower cloth roll is standard construction. There is a device on the ratchet which permits lifting either the take-up pawl or the pull pawl when the shipper handle is thrown off. The shuttle box is leveled through set screws which are a part of the lifter rod. Other features are: Split picking roll arm; adjustable reed tension motion; shock absorbing crank connectors; and new spring jacks.

Crompton & Knowles Loom Works, Worcester, Mass.



2x1 Bobbin Changing Loom.

Super-Silk Loom.

Improvements on Comber.

Among the improvements made recently on the D-2 comber include a new five-roll draw box with rolls of larger diameter, designed to grip the sliver better due to the flatter points of contact between the drawing rolls. This, it is pointed out, plus a more gradual draft gained by a five-roll system, produces a more even sliver. Vibration is cut down, it is further pointed out, by simplifying the mechanism in the head end of the machine.

Whitin Machine Works, Whitinsville, Mass.

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Automatic Device for Shearing Machines.

A device which automatically opens the cloth rests on shearing machines to permit seams to pass the knives, and then closes them, is in operation. It is pointed out that shears equipped with this device eliminate the necessity of having an operator constantly in attendance, enabling one man to attend a battery.

The device consists of a pair of feelers or detectors extending across the face and back of the cloth, set so the cloth will pass, but when a seam appears, it cannot pass without lifting the feelers. This sets in motion the cams which open and close the cloth rests.

Another feature is an attachment for automatically stopping the machine before the end of the last piece reaches the knives. This attachment can only be applied where the cloth is fed from a large roll of several pieces sewed together. It consists of an arm running from the belt shifting mechanism to a position under the large roll of cloth. To this arm is attached a wide smooth plate which acts as a bearing against the cloth roll. The other end of the arm is connected to the belt shifting mechanism through a heavy spring and trigger. The device is set to pull the trigger and shift the belt when the cloth roll reaches a predetermined diameter. As the diameter of the cloth roll is gradually reduced the arm follows up the decreasing diameter through the plate which is held in contact with the roll by springs. When the plate reaches a certain predetermined height, it trips the trigger and shifts the driving belt to the loose pulley.

It is explained that these devices make the shears fully automatic and permit these units to be operated in train with brushes, calenders, stitching machines, etc; reducing the number of operatives by eliminating hand trimming of cloth.

The Hermas Machine Co., Hawthorne, N. J.

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The Modern Cloth Room.

During the past few years there have been comparatively few changes made in the general type of machines used in the cloth room, although various changes in details of construction have been made from time to time in the way of ball bearings, motor drives, etc. Improvements in the method of routing the goods, to secure greater production with a minimum amount of handling, have, however, been made.

Fig. 1. Scray.

The old method of putting the goods on a large roll or a railway sewing and rolling machine is being superseded by the use of scrays arranged as shown in the illustration. On the railway sewing and rolling machine the goods are liable to be rolled up with creases or wrinkles in them, if the operator is careless, and this may cause uneven brushing. The use of the scray, shown herewith, also eliminates the handling of the roll of goods between the sewing machine and the brushing machine.

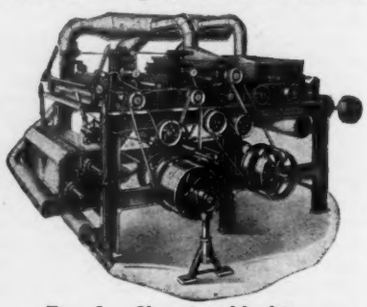

Fig. 2. Shearing Machine.

The goods on the loom roll are placed in a cradle and unwound into the scray. The ends of the goods are sewed together on a railway sewing machine mounted on brackets on the front frame of the scray and the sewing may be done with the ordinary chain stitch seam, or with a butted seam. From

the scray the material passes through a shearing machine, next shown, for removing all loose or hanging threads on the face or back, and also the projecting threads on the selvages of the goods, then through a brushing machine, to a calender rolling machine or other rolling device. The scray serves as a reservoir, containing enough material to allow the operator to make the seams without stopping the shearing and brushing machine. The only time the equipment needs to be stopped is to doff the large roll on the rolling

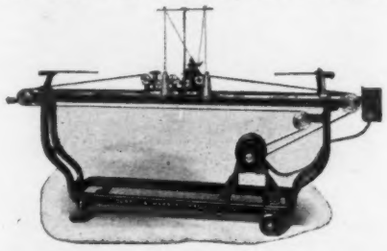

Fig. 3. Sewing Machine.

head. The goods pass through the machine free from wrinkles. The shearing machine is entirely automatic, with a device for allowing seams to pass through without damaging the cloth. The shearing machine can be run independent of the brushing machine, and if it is preferred to do both the shearing and brushing of the goods to remove leaf, specks, etc., from the goods, any desired number of brushes or other cleaning rolls can be placed on the same frame as the cutting parts, depending on the character of the mate-

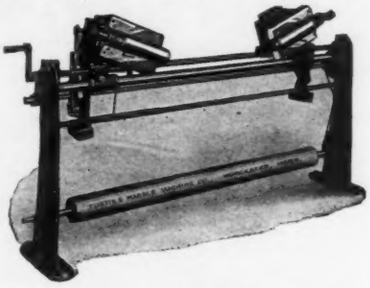

Fig. 4. Automatic Cloth Guiders.

rial. The illustration shows a machine with six cleaning rolls, that is, three for each side of the goods, and three sets of shear blades, two for the face and one for the back of the goods. A powerful suction is created by a fan and the shear blades are so enclosed as to cut off the suction except at the point where the shearing is done. This suction lifts the threads into the bite of the blades, cutting them off close to the body of the fabric.

After running through this outfit, the goods are then taken to the inspecting machine where all imperfections are either eliminated or marked to be cut out. From here they go to the folder, where major defects are cut out, and the goods are ready for grading.

After this, if the material is to be shipped in the form of large rolls, the cuts are placed on a truck with the ends hanging so that they can be sewed together. In most cases a butted seam is used, which is made wtih a Merrow or other type of sewing machine head. This is usually a motor driven machine, as shown in Fig. 3. The goods are then taken to a rolling head with a front frame for the cloth to pass over, to get the desired amount of tension, then down through Durrant automatic guiders, as shown, for making a nice, even-ended roll; then to a rolling head which has an adjustable measuring attachment to give accurate yardage; over a spreader roll to keep the goods out in width and remove wrinkles, and then wound with enough ten-

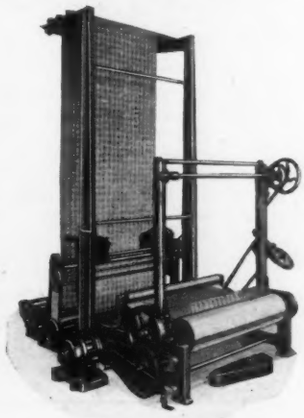

Fig. 5. Rolling Machine.

sion to give a hard, firm roll. Another illustration shows the type of rolling head used in a large number of cases, and also the Durrant automatic guiders.

When putting goods in rolls, the speed of the rolling head is usually governed by the production. As a separate operation, it can be made to run at any reasonable speed from 60 to 150 yards a minute. The use of the guiders makes it unnecessary to have an operator in constant attendance to secure a nice, even-ended roll. The guiders do not use any outside agency but are operated by the travel of the cloth through the machine. They are a separate unit in themselves and can easily be moved from place to place wherever it is necessary to guide the goods straight.

Curtis & Marble Machine Co., Worcester, Mass.

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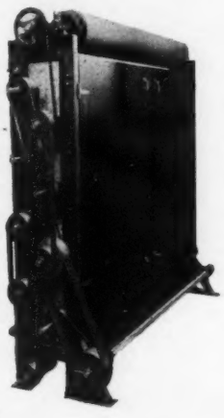
Vertical Brush with V-Belt Drive.

A new development consists of the substitution of a V-belt drive for the chain and flat belt drive on vertical brushers. This drive is so arranged that individual adjustment is provided for each belt so that it is not necessary to renew any belt until it is entirely worn out or breaks. Another feature is the individual suction on each brush which carries away all dust and dirt as soon as it is brushed off the cloth. The brushes are adjustable instantly for heavy or light brushing, and the machine is equipped with sand, fiber, bristle, or wire, or any desired combination. It is ball-bearing throughout and is arranged for either belt or motor drive, and may be used separately or in tandem with other machines.

The Hermas Machine Co., Hawthorne, N. J.



Vertical Brush with V-Belt Drive.

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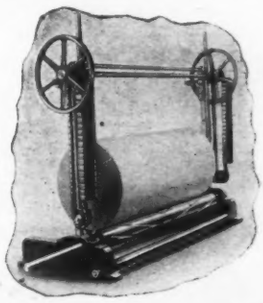
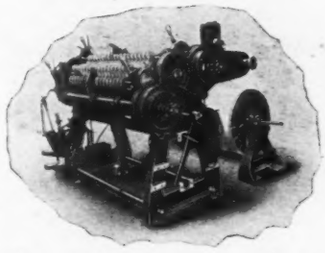
Cloth Slitting and Roll Winding Machinery.

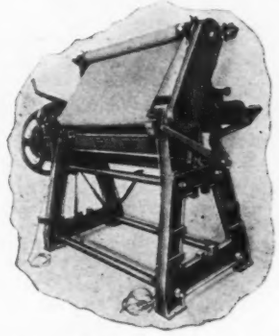
The increasing facility with which cloth may be secured from the mills in the form of rolls has led to a number of new developments in the line of slitting and roll-winding machinery. First, there is a simplified winder with no stripping units. It is designed for winding cotton goods, woolen goods, rayon, rubber, duck and coated material into hard uniform rolls. An automatic system of counterweights provides for the production of rolls of controllable hardness. An inspecting, winding, trimming and slitting machine has been designed of especial use in the manufacture of shade cloth, book cloth, artificial leather, rubber and plain or coated fabrics. In a spe-



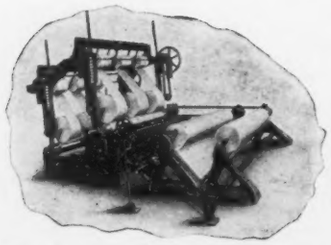
Winder, no slitting units.



—for surgical plaster, spools, etc.

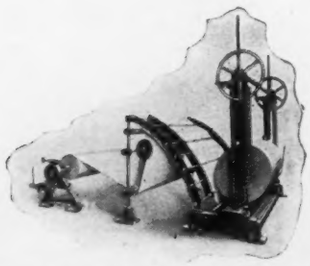


—inspecting, winding, trimming and slitting.



Heavy duty belt and duck slitter.

cial purpose machine for producing surgical plaster on spools, the web of plaster is slit into strips and the ends are attached to the spools. The machine is started by foot pressure on the clutch. It measures the web, slits it, rolls it up to the predetermined yardage for which the motion is set and then stops automatically. The wind shaft full of spools is removed and another run started. A heavy duty belt and duck slitter with equipment for removing the liner from the original mill roll, and also equipped for introducing a separate liner into each of the re-



Inspecting and roll winding machine.

wound rolls has also been improved. Alternating rolls are wound on separate drums to assure separation. Automatic counterweights provide for rolls of controllable hardness. An improved inspecting and roll winding machine, with a spreader roll for removing wrinkles, also has an inspecting device and a roll-winder with the automatic counterweighting feature. Slitting units are furnished on this machine for special specifications.

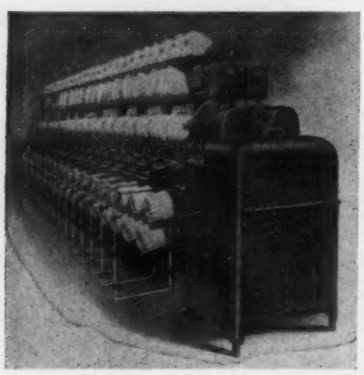
Cameron Machine Co., 61 Poplar St., Brooklyn, N. Y.

Winding, Twisting, Redraw Machines

And similar machines, processes, and equipment.

New Doubler.

A new type of doubler, Model 56B, is used in cotton yarn and thread mills for doubling 2, 3, 4 or more ends on tubes, the tubes, after doubling, being used to draw from in twisting. The machine may be used for doubling from spinning bobbins, the yarn passing



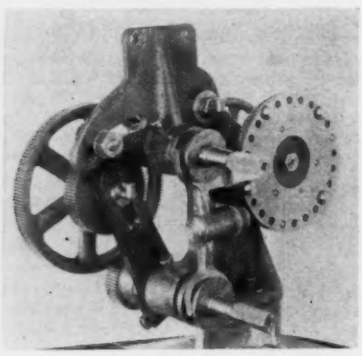
Model 56B Doubler.

from the bobbins through slub-catchers to remove slubs and other imperfections. The machine also is used in the Foster two-process system of doubling, where the yarn is first wound single from the spinning bobbin on the cone winder, two or more of the cones are then drawn from in the creel of the doubling machine. In drawing from the cones, there is a long continuous run as the constant winding is not interrupted by bobbins running out. Methods are provided for keeping the tension on each thread the same; and in case of a run-out bobbin, the winding tube stops before the run-out end winds on.

Foster Machine Co., Westfield, Mass.

Fancy Yarn Twister.

A new fancy yarn twister mechanism makes use of twin discs, controlled by means of change gears, with 24 equally spaced holes, in which can be inserted buttons in one or the other of the two sides. These buttons come in contact with steel shoes and actuate two clutches, one controlling the top set of rolls of the fancy yarn twister and the



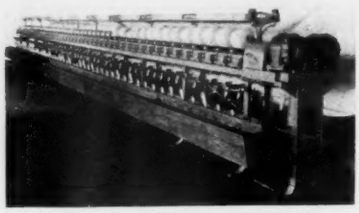
Fancy Yarn Mechanism.

other controlling the bottom set of rolls. By the use of two separate clutches for the bottom and top rolls, the wear and tear received by the former one-clutch drive is eliminated. A greater range of patterns and styles is made possible by the button arrangement in the discs and the fact that the change gear can have anywhere from 36 to 72 teeth. This arrangement is applicable on any make of ordinary style of twister. It is simple and easy to operate, it is pointed out, with every needed adjustment in full view of the person figuring out the type of fancy yarn desired.

Whitin Machine Works, Whitinsville, Mass.

Coning Machines for High Speed Warping.

The new No. 40 Universal winding machine, for supplying cones for magazine arrangement in high speed warpers, is distinguished by departure from established drum winding principles. It features a combination rotary guide and winding drum, moulded of bakelite, that eliminates all reciprocating



No. 40 Winding Machine.

points, and initiates a range of yarn speeds from 750 to 1000 yards a minute. The delivery of yarn to the cone at the point of contact with the drum eliminates back lash, and is designed, it is pointed out, to insure perfectly wound cones, with no bad transfers or breaks at the creel. Self-threading tensions and slubcatchers are used to promote high operative efficiency. The cone is removed from the spindle by a single movement of the operator's hands. An arrangement of the supply parts furnishes a means of handling a large number of bobbins with minimum effort and time. The machine may be grouped in units of from 10 to 100 spindles in gang arrangement. Drum shafts are equipped with ball bearings, and winding spindles are provided with oilless bearings.

Universal Winding Company, Providence, R. I.

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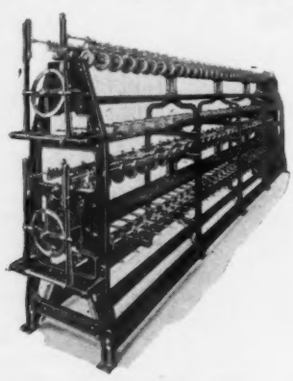
Redraw Machine.

A double-deck redraw machine, for which the following features are claimed, has been brought out. Double capacity per unit of floor space; both decks identical in operation; the yarn drawn upward throughout the entire



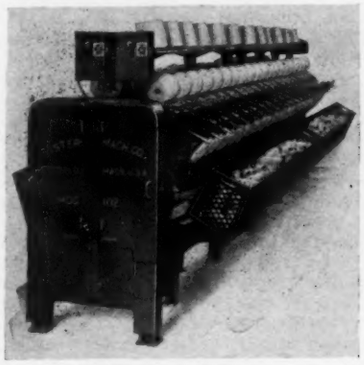
Redraw Machine.

machine; oilless bearings; accurate traverse motion; ample bobbin racks; delivery bobbins firmly held on spindles by balloon spring arbors with spindles rotating in oilless bushings or ball bearings; individual motor drive with special snub starter permitting spindles to accelerate gradually, while motor comes to speed quickly, eliminating broken threads at starting.

Fletcher Works, Inc., Glenwood Ave. and Second St., Philadelphia, Pa.

New Model Cone Winder.

New improvements in the cone winder for the Foster cone warping system, in which the cones, after winding, are used in magazine creels and drawn from them on different makes of high speed beam and ball warpers, are announced. Winding at higher speed, an economy in floor space and power, etc., is one accomplishment; but the new design also provides for quick piecing of run-out bobbins, which allows operatives to attend more spindles and produce more yarn.



Model 102 Cone Winder.

Foster Machine Co., Westfield, Mass.

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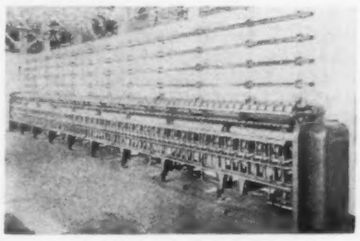
New Twister Models.

A new twister, Model J, incorporates several improved features. Model L is similar except for width. The new machine has a total width of 33 inches, using rings up to and including 4½-inch, and traverses running from 6 to 9 inches. It is built either as a wet or dry twister, and is tape driven.



Model J Twister.

A new head end is designed with special swinging doors, with special gearing, with an adjustable builder fulcrum to enable a mill to conveniently set the builder for square bottom packages and varying tapers; with a push button control using an electrical limit switch which prevents the frame being started with the doors open and which automatically stops the frame if the doors are open while the machine is running. All points in the head end needing lubrication have their respective oilers on the back of the head end, making it unnecessary to open any doors for this purpose.

The motor drive is mounted at the foot end, inside the frame, and is adjustable up and down, permitting additional spindles on a frame. The cylinder is situated well up under the deck board, permitting better accessibility to the builder motion.

The traverse motion housing assembly is at the head end, driving the traverse rods on both sides of the frame from one motion, giving a variable traverse. This motion is mounted in one box. The creel construction is an entirely new design, for flexibility in adjustment as well as being stiff and vibrationless.

Whitin Machine Works, Whitinsville, Mass.

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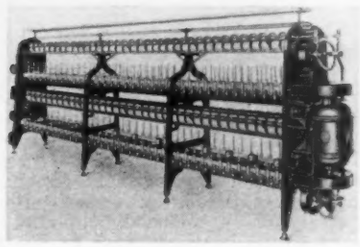
Monarch Twister.

A new design of twisting machine, made both single and double deck, is the "Monarch." The machine may be driven with a compact, vertical motor, which drives both decks of spindles, and it may also be driven by two separate vertical motors, making each set independent of the other in every respect, including spindle speed and direction of rotation. All belts can be taken off and are replaced endless. Tension girts are adjustable, and idlers are of improved type, running in bearings equipped with large oil reservoirs. It is pointed out that a positive, vibrationless traverse motion imparts a straight line movement to the traverse bars, and that all traverse bars travel in oilless, steel-jacketed rolls. "Ball Top" spindles with patented steps are of standard equipment on these machines. Standard equipment includes also tentering eyes or tension wires, bobbin shells and switchback cams. Bobbins, bobbin board racks, drip pans, spindle separators, loose gudgeons, wrenches and other accessory equipment may be supplied for special requirements.



"Monarch" Twister.

Atwood Machine Company, Stonington, Conn.

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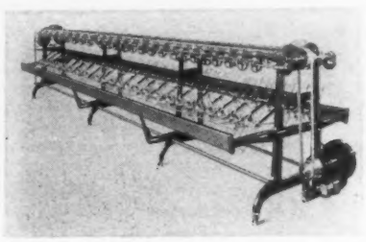
New Re-draw Machine and Ball Top Spindle.

The development of a new re-draw frame, known as the "Advance" was introduced. Features advanced for this machine are:

Oilless bearings throughout; unit assembly drives; spindle equipped with springs to compensate for vibration due to high speed and unbalanced bobbins; delivery bobbins run either parallel to or at right angles to the machine; improved cam construction to make better wound bobbins; and rigid tubular construction with 30 braces. The machine is available both as single and double deck models.



Redraw Machine.

A new spindle, known as the "Ball Top" super spindle, was also announced. The claims made are: a blade that will run true and stay straight under the rigid demand of modern production; a whorl, machined all over, accurately centered, and accurately balanced; a practiced step, embodying advanced principles of lubrication with less frequent oiling and constant and rapid circulation of a large volume of oil, with cool running spindles; a spindle lock, releasing manually, automatically locks the blade in the step, thus holding the spindle while doffing is taking place.

Atwood Machine Company, Stonington, Conn.

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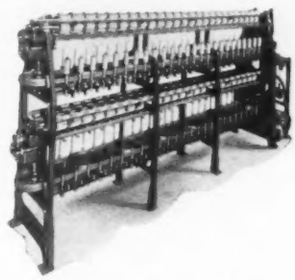
Double Deck Twister.

A new double deck twister has been developed for which the following points are claimed: Individual adjustment of spindle swings, affording uniform spindle speeds through proper belt contact; large diameter idler pulleys running at slow speed with consequent power saving; lapless endless belts; patented sliding motor belt take-up; thread guides individually adjustable; take-up rolls driven by the spindle belt, affording a constant relation between take-up and spindle speeds.



Double Deck Twister.

Fletcher Works, Inc., Glenwood Ave. and Second St., Philadelphia, Pa.

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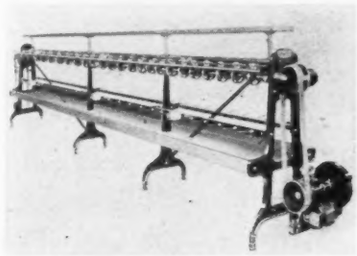
New Stonington Winder.

Improvements in the frame of the new Stonington winder, along with the cams, traverse levers, traverse lever feet and other parts, were announced. The larger cam roll, it is further stated, tends to give more even bobbins.

Other features claimed for the new machine are: The new traverse finger, which has oilless bearings and oilless traverse roll; oilless bearings being used throughout; the upper crosshead, which is a unit assembly and is fastened to the end stand by two bolts; and a new compact motor drive which is also a unit assembly and is fastened to the end band by three bolts.



Stonington Winder.

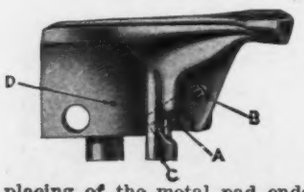
Atwood Machine Company, Stonington, Conn.

Accessories and Supplies

Counters, rolls, measuring devices, stop motions, belts, regulators, and many other attachments, supplies, methods and applications . . . . . .

New Shuttle Eyes.

Several new shuttle eyes have been developed to improve weaving processes. One is a No. 1 eye, shown in the accompanying illustration, which is a small silk shuttle eye made with metal pads placed on an angle or slant which allows the yarn to come into direct line with the outlet groove, eliminating the possibility of chafing of the yarn and cutting the eye, it is pointed out.



The placing of the metal pad ends in a steel bushing saves wear on the eye itself. Another feature of this eye is the tension adjustment, operated by an adjustable screw and equipped with a positive lock arrangement. In the illustration *A* shows tension pads to give even uniform tension; *B* shows steel bushings to prevent tension pads from wearing brass; *C* shows hardened steel, porcelain or glass pins; and *D*, steel guide pin for preventing yarn from dragging on the brass.

Shambow Shuttle Company, Providence, R. I.

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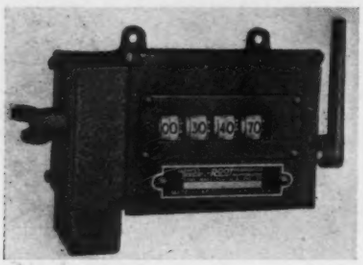
Pre-Determining Counter.

A pre-determining counter is designed as useful on warpers where, because of the increasing importance of supplying material to the selling house in pre-determined cuts, it prevents losses resulting from warps running out part way through a cut, and makes it possible to control accurately the amount



Pre-Determining Counter.

of yarn wound on the beam in even multiples of length of cuts being warped. The counter may be set at the desired number and, when that number is reached, will stop the warper or give a signal to indicate that the required amount of yarn is on the beam, it is explained. Also, where a number of beams require the same amount of yarn, it is unnecessary to re-set the number on the counter. The counter is re-set to zero by means of one revolution of the re-setting mechanism, and will repeat the predetermined number indefinitely, so that, it is explained, it is possible for a responsible person to set the counter to start with, and be confident that the required number will be repeated indefinitely or until a beam with a different length of warp is required. The counter is also applicable to slashers and looms and other textile machinery.

Veeder-Root, Inc., Hartford, Conn.

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New Cork Cot for Rolls.

Development of a new cork cot for covering spinning, cardroom and twister rolls has just been announced. One unique feature pointed out for the cot is the ease with which it is applied to the roll. It is made with an inside lining of special gummed cloth, it is explained, so that it is only necessary to moisten the inside and put it on the roll, where it securely sticks in a few minutes. The cot is made to fit standard rolls and shells, and no alteration of rolls or shells is necessary. It is surface finished when made, and grinding or buffing after it is put on the roll is not necessary. A simple machine is all that is necessary for satisfactorily putting the cots on the rolls, it is pointed out.

Sonoco Products Company, Hartsville, S. C.

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Reclaiming Obsolete Packages of Multiple Wound Yarn.

The salvaging of packages of multiple wound yarn rendered obsolete by manufacturing changes is being accomplished on a modified No. 14 Universal winding machine. The special features of the latter are a longer spindle and a multiple position traverse bar which permits two packages of yarn to be wound at the one time. To convert a package of 9 ends to 7 ends, the obsolete 9 end package is placed on the supply rack together with five packages of single end yarn. Seven ends of the 9 end package are wound into a new package on one-half of the two position spindle. The remaining two ends and the five single ends are wound into a similar package on the other portion of the spindle. It is also possible to use this machine to salvage packages which are damaged occasionally in handling or where mixed sizes, mixed colors or missing ends occur.

Western Electric Company, 50 Church St., New York City.

Essential Factors in Card Clothing.

An essential characteristic of a satisfactory card clothing foundation is its ability to maintain its length substantially unchanged and resist stretching while in use. If the foundation stretches, the clothing becomes loose and it is necessary to remove the rolls and rewind the clothing on them. Another important feature of a foundation is its ability to firmly support and retain the teeth inserted therein.

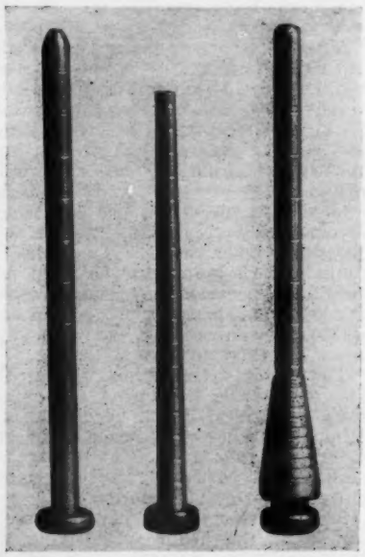
A cylinder cloth foundation has been produced with these facts in mind; it is made with a re-inforcing layer of fabric of improved construction for firmly supporting the card wires inserted. The layers of cloth in this foundation are put together with an oil-proof glue. Through this foundation are inserted teeth of tough and evenly tempered construction. If the temper of wire is too hard, it will give sharp crowns and knee, which in bending, will break and will have to be ground longer, and, after grinding, instead of a smooth, clear point, will develop a rounding point which does not card the stock satisfactorily.

Howard Brothers Mfg. Co., 44 Vine St., Worcester, Mass.

New Cork Cot for Covering Rolls.

Aluminum Cops and Quills.

A new line of aluminum cops and quills, for use in conjunction with the electric feeler motion on many silk looms, has been announced. It is stated also that many cotton and woolen mills have adopted this type of quill and cop and bobbin, for steaming purposes. These quills and cops were designed primarily to give the necessary metallic contact on electrical filling stop motions. To increase the toughness, the metal is extruded rather than drawn,



and the head, which is subject to the greatest wear, is protected by a band of stainless iron. It is stated that one cop is said to have been used 2,000 times with no appreciable sign of wear.

An aluminum bobbin, for use in shuttles on automatic looms, has been added to the line. It is pointed out that these may be used for steaming purposes.

Apco Mossberg Corporation, Attleboro, Mass.

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Metergraph.

The metergraph is a device invented by F. Gordon Cobb, general manager, Lancaster Cotton Mills, Lancaster, S. C. It is a yardage recorder driven from the take-up roll of a Model E Draper loom, and has combined with it a predetermining feature which, when the required length cut is woven, stops the loom and throws up a flag signal indicating that a cut is ready to be taken off. The length of cut may be varied

Metergraph.

within rather wide limits by easily substituted change gears. The greatest field for the metergraph, it is pointed out, is in mills using the multiple-system. It controls within very narrow limits the length of cut being taken off, the inventor claims, more accurate results being obtainable than in the folding room. As explained, when the desired length cut has been woven, the loom is automatically stopped and the signal flag goes up; the weaver then draws a chalk mark across the woven material at the breast beam and starts the loom, allowing the signal flag to remain up and the cloth room man takes the cut off at his first convenience.

Veeder-Root, Inc., Hartford, Conn.

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Compressed Hard Paper Bobbins.

The Adolff card room bobbins, used generally in Europe for a number of years, have recently been introduced in this country. These bobbins are compressed hard paper, accurately balanced, and are equipped with a metal protection at the point where the bobbin first shows signs of wear. It is pointed out that the construction of the material eliminates splintering which would cause injury to employees' hands or to the yarn.

J. I. Bernitz, 47 West Street, New York City.

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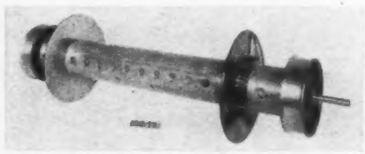
Paperless Warp Beam.

Paperless warp beams, for beaming rayon and silk warps without paper, have been introduced. It is pointed out that accurate construction insures



Paperless Warp Beam.

even selvages, and that the beams are so made that the warp width can be quickly changed by a fraction of an inch or more without injury to the beam barrel. A larger diameter of barrel is used.

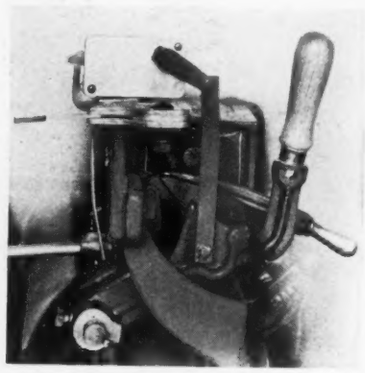
Crompton & Knowles Loom Works, Worcester, Mass.

:: :: ::

Feeler Motions for Looms.

Several new types of feeler motion, to stop the loom when the filling is exhausted, have been developed. They are applicable to silk looms, and many to cotton looms, and are divided into three classes: mechanical, electro-mechanical, and electrical. The mechanical and electro-mechanical utilize the C & K No. 11 feeler. This is a light weight, light touching feeler equipped with a formica bakelite tip. It is of the side-slipping variety, having a sensitive spring and light weight in the moving parts.

The mechanical feeler motions, No. 12 and No. 13, both stop the loom through the rolling rod. No. 12 is the simpler and the loom comes to rest with the shuttle in the drop box end.



No. 15 Stop Motion.

No. 13 stops the loom with the shuttle in the plain end.

In the series of electro-mechanical feeler motions, there are numbers 14, 15, 16, and 17. They all use the C & K No. 11 feeler but stop the looms electrically, usually through the electric warp stop motion. Nos. 14 and 15 are used where there is a complete electric warp stop motion on the loom, No. 14 stopping the loom with the shuttle in the drop box end and No. 15 having a timing box which stops the loom when the shuttle comes back to the plain end. Nos. 16 and 17 are similar except they are used where there is no electric warp stop motion on the loom, and the C & K electrical knock-off box is therefore needed.

With the electrical motions, the new two-pronged feeler is used. Motions 18, 19 and 20 are in this class. No. 18 is the simplest, stopping the shuttle in the drop box end by means of an electric warp stop motion on the loom. No. 19 is similar except that it is used where there is no electrical warp stop motion already on the loom and the electrical knock-off box must therefore be supplied. No. 20 is similar to No. 19 except that there is a timing mechanism which holds the indication until the empty shuttle returns to the plain end.

Crompton & Knowles Loom Works, Worcester, Mass.

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Chain Drives for Jacquards.

Application of chain drives for the jacquards of looms has been extended by the use of a new chain drive, in which the cylinder eccentric in each case works from the chain drive, requiring only enough space on the loom shaft to accommodate the sprocket wheel in order to obtain both the griffe and cylinder motions. On a double-lift, double-cylinder jacquard, with the cards falling at the end of the loom, the drive is obtained through bevel wheels on account of the jacquard machine being turned through 90 degrees. The advantages claimed for the new drive include: greater rigidity, saving in aisle space, greater accessibility, elimination of shafts and rods, etc.

John T. Hardaker, Inc., 201 South Poplar St., Charlotte, N. C.

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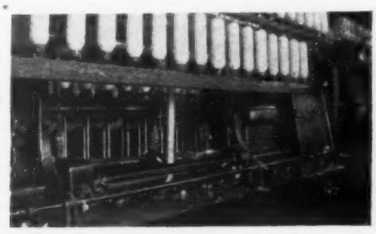
New Cone Belt.

A new cone belt, for roving frames, etc., is completely woven endless without splices or joints of any kind. It is



Cone Belt for Roving Frame.

impregnated with a suitable rubber compound to give it the proper friction, and is especially treated on the edges for wear resistance.

The Russell Manufacturing Co., Middletown, Conn.

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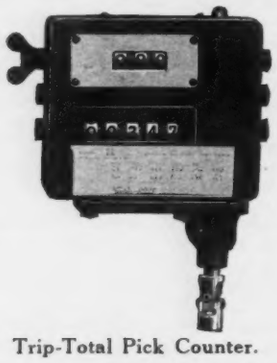
Roller Neck.

A roller neck, for re-necking steel rollers, is offered, for which it is claimed that the entire strain is on three inches of group taper; the contact surface is complete at all points, with no strain on threads; no loose joints, no chattering, swelling or cracking, or creeping and pinching of stands. Case-hardened necks are interchangeable. After the first installation, it is stated, the mill can do their own re-necking.

Dixie Spindle & Flyer Co., Inc., Charlotte, N. C. Patented by A. M. Guillet, through Paul B. Eaton, patent attorney.

Trip-total Pick Counter.

A new trip-total pick counter, designed especially for one-shift operation, is practically a single pick counter with two sets of dials, upon each of which every pick woven is simultaneously recorded. The non-re-setting dial accumulates perpetually individual loom production, forming a permanent record for payroll purposes,



Trip-Total Pick Counter.

checking loom production, etc. Readings may be taken as often or as seldom as desired, and total loom production for any given period of time is available by subtraction. The re-setting dials make it possible for the weaver and overseer to see their production. The counter, re-set at the beginning of the pay period, makes direct comparison on the same work possible at all times. Lagging looms may be quickly found. Expected production for direct comparison is posted in a card holder. If it is desired to pay by the re-setting dials, a pin tumbler lock, preventing unauthorized setting, may be added. The trip-total pick counter is interchangable with any Root type pick counting unit in existence.

Veeder-Root, Inc., Hartford, Conn.

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Converting Pickers to One-Process.

A new method of converting pickers to single-process involves a separate synchronizer for the feeds, actuated by the finisher evener but not operated by it. The finisher is backed up to the breaker, and the calender rolls removed from the breaker, only the gear reduction train to the screens and delivery rolls being retained. The feed pulley on the breaker is driven from the beater on the finisher through a variable speed transmission. The front end of the conveyor apron is driven by the evener roll on the finisher, while the back end of this apron is driven by the breaker delivery rolls. Both ends of the apron are connected through an endless chain arrangement, and in the loop of the chain hangs a slide that is connected to the belt shipper that controls the variable speed cones. As long as both ends of the conveyor apron are running at the same speed, there will be no change in the amount of slack in the endless chain, and the belt shipper will remain stationary, it is pointed out; but a slight change of speed by the finisher evener would cause the amount of slack in the chain to change, moving the slide and the belt shipper until the speed of the back machine changed to conform to that of the finisher.

Aldrich Machine Works, Greenwood, S. C.

McMullan Spindle.

The use of improved steels has resulted in making the spindle stronger

Left, Improved McMullan Spindle.

and lighter, with lower power consumption. This spindle is equipped with the Saco-Lowell spindle clutch.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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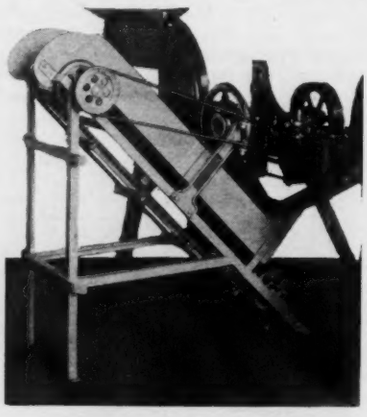
Elevators for Bobbin Cleaning Machines.

Standardized elevators for the purpose of lifting bobbins from the Utsman and Type K quill cleaning machines, and the roving bobbin cleaning machines have been developed. In the case of filling bobbins, cleaned bobbins are dropped into a hopper from which they are carried by elevator bars to the



Elevator for Quill Cleaner.

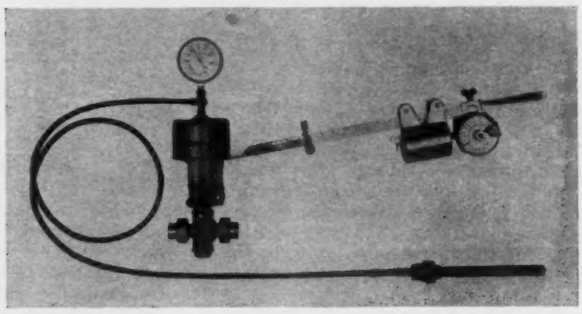
upper end of the elevator and discharged into a filling box. The elevator is driven by belt from a small pulley attached to the handwheel hub of the Utsman machine, and the main drive shaft of the Type K.

The elevator for the roving bobbin cleaning machine lifts the bobbins from the level of the discharge chute to a point above the top of a standard roving box, and drops them into the box. The lifting is done by elevator bars, attached to standard conveyor chains. The drive is through a spur gear, sprockets and chain. The elevator may be attached to all but a few outstanding Termaco machines by removing two parts already on the machine and substituting two of the elevator parts.

Terrell Machine Co., Charlotte, N. C.

Size Cooking Regulator with Time Control.

A recent development is a self-contained temperature regulator for size cooking kettles, which is provided with a time device for controlling the time and temperature settings of the size cooking operation. This regulator is also equipped with a dial thermometer which indicates at all times the temperature of the batch being cooked.



Cooking Regulator with Time Control.

It is pointed out that only one thermostatic bulb is required for the temperature indication and control functions, and that the time device requires no outside operating medium, such as electricity, compressed air, or water. The dial thermometer case, and the regulator lever, weight, adjustable stops, and time device, are plated in chromium finish. Regulators of similar construction are available for controlling all cooking operations, dye liquor time temperature control, etc.

The Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.

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Pick Counters for Looms.

A new line of pick counters for looms is made in one-, two-, and three-shift models. The shifting clutch is easy to operate and has no neutral position, it is explained, therefore, the loom cannot run without the odometer record-

Double-Shift Pick Counter.

ing. The odometer wheels have internally-protected gears. An easily-installed flexible shaft allows the counter to be placed in any position on the

loom, it is pointed out. The inner cable of the shaft is constructed of 17 strands of tempered piano wire. The worm and housing drive mechanism is lubricated with Zerk-Alemite.

Waltham Watch Company, Waltham, Mass.

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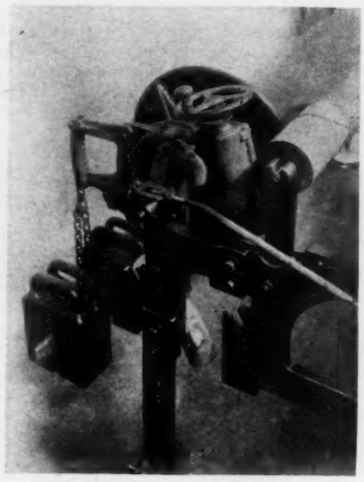
Automatic Let-Off for Silk Loom.

An automatic let-off for silk looms, which has been in an experimental stage for many years, is now ready. It involves new principles with a floating beam in ball bearing poppets. A constant tension is assured for all qualities of silk fabrics, it is pointed out. It is of precision construction, compact in design, and completely enclosed.



Silk Loom Let-Off.

Crompton & Knowles Loom Works, Worcester, Mass.

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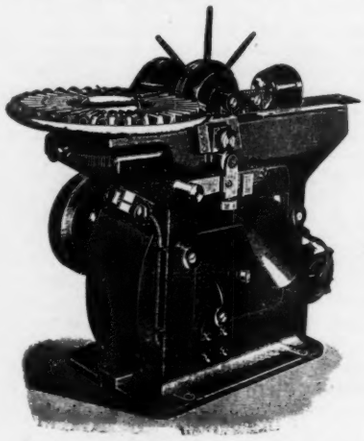
Automatic Bobbin Stripper.

A new model of bobbin stripper is being introduced in this country. It has an automatic feeding device, which consists of a vertical, rotating, four-member revolving disc on which the bobbins to be cleaned may be laid. The stripping device is provided with three stripping claws which are controlled by a lever and whose stripping motion follows under positive control the shape of the bobbin. The grippers and bobbins are both cleaned by a powerful jet of air. The stripped yarn is blown by a current of air into a suspended sack. The machine may be driven from line shaft or directly by an individual motor. The output is 65 to 70 bobbins per minute, it is stated. The power required is about 1 hp.



Automatic Bobbin Stripper.

J. I. Bernitz, 49 West Street, New York City.

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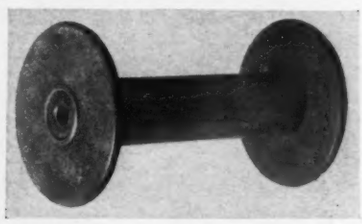
Improvement in Fiber-Head Spool Construction.

An improvement in the construction of fiber-head spools permits of the fiber heads being positively locked to the wooden barrel of the spool. The efficacy of unbreakable, non-splintering, non-warping material, light and resilient, is emphasized by the fact that practically all of the wear on spools comes on the heads. The new construction is applicable to twister, winder, and warper spools. A saving in production cost is effected, it is pointed out.



Improved Fiber-Head Spool.

Lestershire Spool & Mfg. Co., Johnson City, N. Y.

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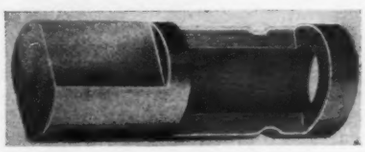
Self-Lubricating Top Roll Bushing for Drawing Frames.

A self-lubricating top roll bushing for drawing frames has been designed to eliminate oil-stained sliver. In addition, it is pointed out, it requires no attention except periodical cleaning every two or three weeks, saving labor and oil. It is especially adapted to drawing frames with metallic rolls, it is stated. This bushing is of oil-impregnated wood, held within a sheet steel housing, and may be substituted for the ordinary cast iron bushing.



Self-Lubricated Bushing.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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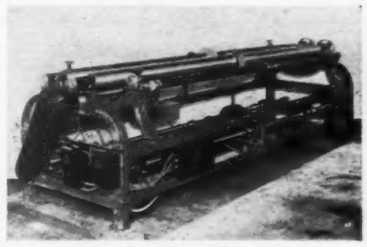
Improved Napper Roll Grinder.

An improved napper roll grinder is adjustable for grinding napper rolls of different lengths with no lost motion in the traverse of the grinding wheels. There are two grinding units, one for surface grinding and one for side grinding. The surface and side grinding wheels operate simultaneously. The traverse of the wheels is obtained by a reversing motor, mounted inside the end of the frame. The motor speed is brought down to the required r. p. m. by a reducing unit which is directly connected to a screw operating between the two grinding units. The length of the traverse of the grinding unit is controlled by adjustable dogs set on a bar directly above the traverse screw. When the grinding wheels come in contact with the dogs, the motor on the frame end is reversed and the direction of traverse of the grinding wheels is instantly changed. When the direction of the grinding wheels is changed, the napper roll being side ground is at the same time reversed in direction. This allows the side grinding or emery disc wheels to follow the spiral of the wire as it is wound on the rolls.



Napper Roll Grinder.

B. S. Roy & Son Company, Worcester Mass.

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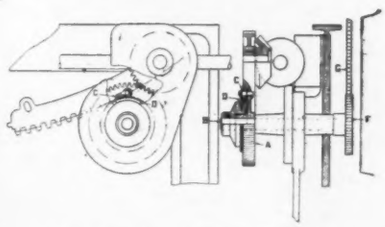
Self-Releasing Gear for Slashers.

The purpose of the self-releasing gear for slashers is to hold the tension of the yarn as it travels from the size vat to the drag roller at a uniform and predetermined degree. With the gear, it is explained, should the tension and the yarn at any time tend to cause the yarn to drag on the cylinder or to build up a pressure which would damage either the cylinders or the gears, the pawl *c* (see illustration) will slip over the rachet *d*, causing the surface speed of the cylinder to adjust itself immediately to the surface speed of the yarn, eliminating undue strain. It is pointed out that the reduction of excess strain preserves the elasticity of the yarn and prevents breakage and loose ends in the warp.



Gearing for Slasher Release.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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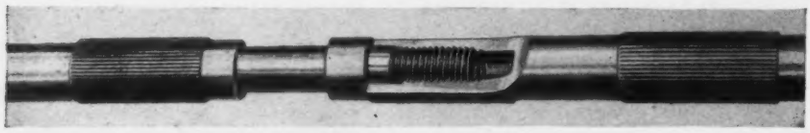
Mechanical Sliver Tester.

The principle of a new mechanical sliver tester, for showing the variations in the evenness of slivers inch by inch, is to take a certain length of sliver, twist it with a certain number of turns according to its size, then cable-lay it, similar to a spinning band. Twist always goes into thin places, therefore, those found in the sample length of fiber will be exaggerated so that the apparatus almost acts like a microscope, it is explained. The samples cut off stay together and are used for comparative purposes when cards and drawing frames are being adjusted.

The Belger Company, 227 California St., Newton, Mass.

Improved Steel Roll.

The use of a screw joint for permitting more accuracy and wear-resistance in the manufacture of steel rolls is a new development. The roll is shown in the accompanying illustration.



Improved Steel Roll.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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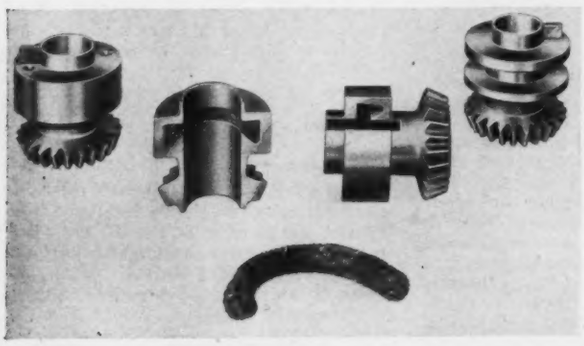
Self-Lubricating Bobbin Gear.

In a self-lubricating bobbin gear for roving frames, a recess is cut in the boss of the bobbin gear. This is packed with an oil-retaining waste, for assuring at all times the proper amount of oil on the surface of the bolster which comes in contact with the bobbin gear. The roving does not become streaked or oil-stained, it is stated. These gears are interchangeable with non-lubricating gears.



Parts of the Self-Lubricating Bobbin Gear Shown Separately.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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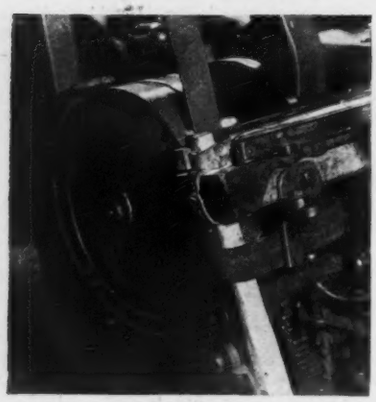
Check Straps.

A new check strap, for looms, is woven solid, in such a way as to prevent ply separation, it is pointed out. A double service feature explained is in the form of an extra length on one end to give a double thickness where the picker stick hits the strap on the forward stroke. This free end is carried in a loop.



Solid Check Strap.

The Russell Mfg. Company, Middletown, Conn.

New Type of Roller Leather.

A new roller leather is known as "Bark Spinna Calf", the features of which are a calfskin readily worked in the process of covering rolls, and special tannage and finish, designed for giving a better roll covering and producing a better yarn, the manufacturers state.

A. C. Lawrence Leather Co., Peabody, Mass.

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Case-Hardening Steel Roll Necks.

A method of case-hardening steel roll necks without hardening the squares has been developed. This method makes it possible to produce rolls with a very satisfactory degree of straightness.

Improvements have recently been made in the Queen size level controls, so that they may be readily attached to any slasher or finishing machine and control the level of the mixture at all times.

These controls are installed on each slasher so that different colors may be run on each slasher without mixing sizing from one to the other. These controls require no pumps or extra piping.

Ideal Machine Company, Bessemer City, N. C.

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Self-Lubricating Saddles.

Self-lubricating saddles for spinning and roving frames, recently designed and developed, are made of wood impregnated with special lubricants, designed to eliminate oil, oiling, oil getting on yarn, and deterioration of leather rolls. They are being applied on practically any type of frame, and for weighting all three rolls, or only front and back rolls, it is pointed out. Bearings for combers are made of the same materials.

Self-lubricating Saddle.

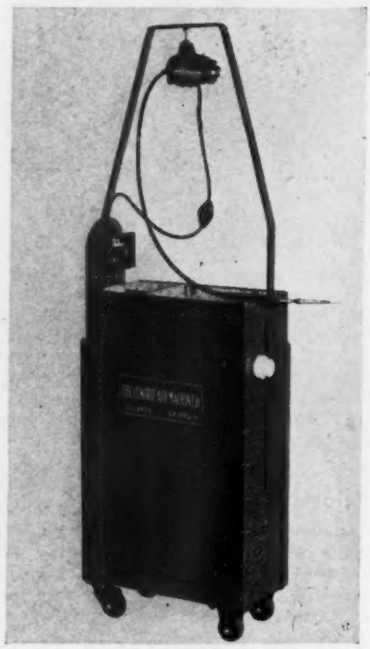
Comber Bearing.

Neveroil Bearing Company, Wakefield, Mass., and Texwood Mfg. and Sales Co., Inc., Greenville, S. C.

:: :: ::

Electric Roll Picker for Long Draft Spinning.

An electric roll picker has been developed to meet the need for an efficient method of picking the rolls, journals, cots, saddles, etc., on long draft spinning frames. Essentially, it consists of a storage battery supplying power for a small motor which operates a flexible armored shaft and picking spindle, along with a simple device for dampening the smooth picking spindle so that it will pick the accumulated lint from the rolls, cots, journals, saddles, etc. The motor uses only three amperes an hour, and the battery has ample capacity to operate the motor continuously for 10 hours. A charging unit is included which will re-charge the battery in 10 hours or less if necessary. The picker is mounted on rubber-tired casters, and virtually no effort is required to move it along the alleys as the picking is being done. The operator simply pushes it along with his hip, then turns the switch to admit current to the motor, passes the spindle over the dampening rolls and starts picking. When the spindle has picked off enough lint from the rolls, cots, journals, saddles, etc., to be fully covered, it is easily doffed by the thumb and forefinger of the right hand. A receptacle is built in the top for receiving the waste picked from the frames. This picker is also built to operate direct from the lighting circuit in mills where outlets are available.



Electric Roll Picker.

The Centrif-Air Machine Company, Inc., Atlanta, Ga.

Increased Capacity of Multiple Winding Machines.

A greater output per machine has been obtained on multiple winding equipment by modifications which permit winding two or three packages of yarn on each spindle instead of one package per spindle. Additional sup-

ply racks and tension devices were necessary together with longer spindles and multi-position traverse bars. The illustration shows three packages of cotton yarn being wound on a modified Universal winder. Standard 5/8-inch diameter cardboard tubes are used as cores for these packages.

Another type of machine which winds packages using 1 1/8-inch split cardboard cores has also been changed in similar manner, with the addition of specially designed multiple expanding spindle sleeves.

Western Electric Company, Inc., 50 Church St., New York City.

:: :: ::

New Bondaron Loop Pickers.

A new Bondaron loop picker, to effect savings in loom operating costs, has been developed. This picker is made of carefully selected, tough hide which is put through a special process of tanning. The leather is practically

New Loop Picker.

double stretched which allows for a construction that keeps the picker rigid on the stick without slipping or twisting. The toughness of the leather, it is pointed out, provides a greater resistance to the shuttle point than does ordinary leather, thus providing greater durability and life. It is reported that one Georgia mill is on record with having used one of these pickers continuously for 105 weeks of 103 hours per week.

Charles Bond Company, 617 Arch St., Philadelphia, Pa.

:: :: ::

Improved Automatic Roving Tester.

A number of improvements have been made in the automatic roving tester. It is now equipped with V-belt drive, self-oiling metal bearings, enclosed scale in aluminum housing, automatic unreeling device, silent bronze and fiber spiral and worm gearing, and a new style of chart writing apparatus.

The purpose of the tester is to show, independent of twist multipliers, staple, character of cotton, and humidity, just how much twist roving must have, and whether the roving is being made with the proper tension from the start to the finish of the bobbins.

The Belger Co., 227 California St., Newton, Mass.

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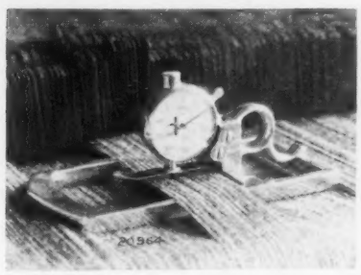
Tensometer.

A Tensometer has been developed, which is a precision instrument, which, when applied to a warp, gives a direct dial reading of the tension. This in-



Warp Tensometer.

strument has proved most useful in obtaining a uniformity of cloth finish on a number of looms weaving the same construction.

Crompton & Knowles Loom Works, Worcester, Mass.

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Skewerless Bobbin Holder.

Patent is pending on a new skewerless bobbin holder, which, it is stated, gives an even and less friction on all bobbins in the creel, and permits the lowering of the top creel board by two to three inches. The weight of the bobbin is taken by a "one ball" ball bearing, giving simplicity of design.

The Belger Company, 227 California St., Newton, Mass.

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Roll Spacing Tester.

A new roll spacing tester is an instrument to be placed between the front and middle roll of drawing and roving frames, working on the principle of draft resistance, the "drag" a certain bunch of open fibers offer to a certain weight. If the fibers are not being held too positively, the drafting process is not at its maximum efficiency, it is explained, and the roll spacing tester shows this condition by registering the break higher as according to a table supplied with the apparatus. If, on the other hand, the rolls are spaced too far apart, for a certain length of stock and character of cotton, the tester will break the fibers sooner than the table indicates, which shows that not sufficient fibers are under positive control, and thus also are detrimental to correct drafting.

The Belger Company, 227 California St., Newton, Mass.

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Brush for Roller Necks.

A new brush has recently been brought out especially for use in cleaning roller necks next to the stands on

frames, with special features utilized for making it applicable to this operation, it is stated.

Gastonia Brush Co., Gastonia, N. C.

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Control for Dobby Looms.

A pattern control for dobby looms, invented by James L. Reynolds and John M. McKelvey, is built of paper of suitable texture with the pattern punched in the form of holes with the feelers for reading the pattern for

Dobby Pattern Control.

controlling the jack-knives and harness mechanism of the loom for controlling the pattern woven by the loom. This pattern also controls the shuttle box motion to control the colors imparted to the fabric.

Simplex Pattern Control Co., Charlotte, N. C. Patent secured through Paul B. Eaton, patent attorney.

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New Colson Trucks.

A new canvas bag truck, in 10 and 13 bushel sizes, has a frame made of steel, spot-welded together, with hot galvanized finish. The casters are ball-bearing and have rubber tires. The

bags, which are made of heavy duck, or khaki, are easily detached.

Another type of truck, recently improved, is a mop truck, equipped with new wringer. The wringer is simple in design, and is finished in cadmium plating, to prevent rust.

The Colson Company, Elyria, Ohio.

Dyeing, Bleaching and Finishing

Dyeing machines and processes, electro-chemical feeds, extractors, washers, etc., etc. . . . . .

New Machinery for Finishing Textiles.

Six new developments in the line of finishing machinery for textiles are among those recently developed. These are: sample skein dyeing machine; continuous kier; improved 3-roll silk calender; penetrating type dyeing machine; hand hoist type rotary machine; and improved 4-pocket hosiery dyeing machine.

The sample skein dyeing machine is a two-stick machine suitable for rayon, silk, wool, cotton and worsted. It is designed to duplicate accurately the work of larger production machines.

The continuous kier is for processing fabric in either rope or open form.

The 3-roll silk calender is equipped with easily operated compound leverages, giving pressures up to 20 tons.

It is explained that the penetrating type dyeing machine does work evenly and quickly, without undue attention to the yarn, which is windable after dyeing. The heads are mounted on a solid base plate.

The hand hoist type rotary machine is designed for dyeing hosiery in small lots, and incorporates all of the features of the larger power lift type machines.

The 4-pocket hosiery dyeing machine is constructed of Monel metal throughout, and is designed to carry a generous overload above its rated capacity.

H. W. Butterworth and Sons Co., Philadelphia, Pa.

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Improved Vacuum Extractor.

In a new improved vacuum extractor, the moisture is extracted by means of a powerful suction as the goods travel over a slotted vacuum pipe. The goods are handled in full open width, and are not creased, folded or pressed. Operation is continuous and can be carried on in range with other machines, such as scutchers, automatic loop dryers, tender dryers, carbonizers, saturating tanks and washing machines. A variable speed drive is supplied to facilitate speed synchronism. The machine is a complete substantial unit, built in a structural steel frame, with the motor and pump located beneath the extraction pipe. An improvement in the late model is a special slot-closing device which adapts the machine to cloth of varying widths, by sealing all slots in the vacuum pipe situated beyond the edges of the cloth, to prevent loss of vacuum. Other improvements have been made in the spreader bar, adjustable tension controller, and in the automatic folding device at the delivery end. The machine is designed for handling a variety of cloths including woolen and worsted, wash prints, flat crepes, velveteens, plushes, corduroy, etc.

Philadelphia Drying Machinery Co., Philadelphia, Pa.

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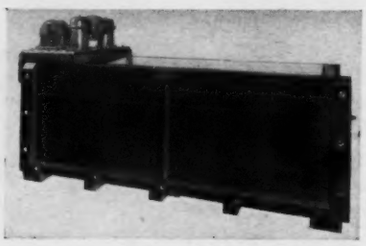
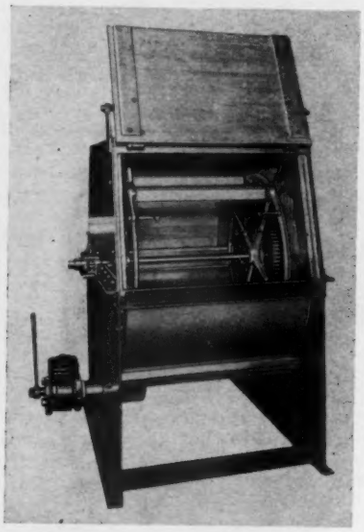
Package Dyeing Practical for Short Warps.

A machine for making package dyeing practical for short warps was recently announced. This is an adaptation of the silk warping method to a high speed creel. The Franklin packages equipped with a special ballooning device deliver over-end from the creel instead of by rotation. The warp is built up by running a series of sections

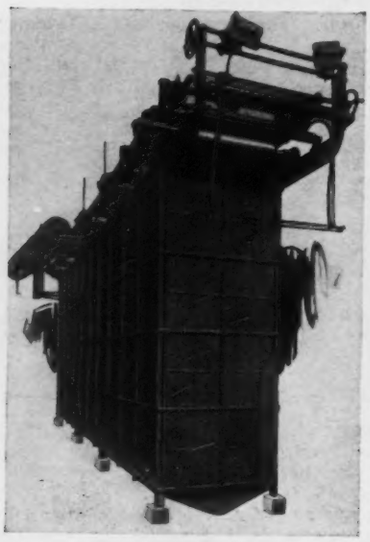
4-pocket Hosiery Dyer.



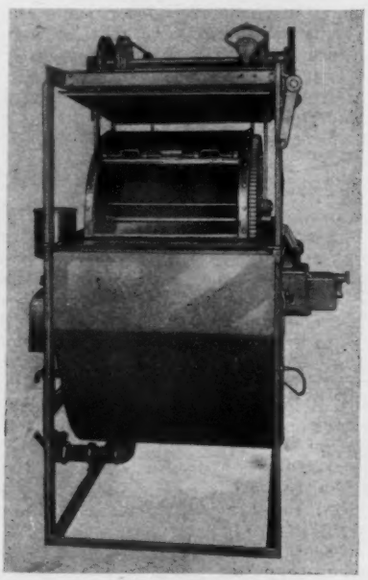
Penetrating Type Dyeing Machine.



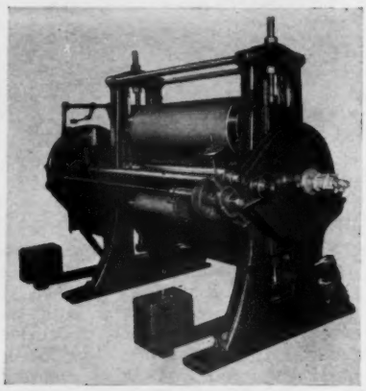
Sample Skein Dyeing Machine.



Continuous Kier.



Hand Hoist Rotary Dyer.



3-roll Silk Calender.

onto a reel and then onto a section beam instead of running all of the ends at once direct to a section beam. The advantage is due to the fact that this operation is conducted at a speed of 300 yards per minute. In running from the creel to the section beam, the speed is reduced to 80 yards per minute, although it can be increased if desirable. This method eliminates the necessity of splitting packages, and uses up the yarn practically to the last ounce.

Franklin Process Co., Providence, R. I.

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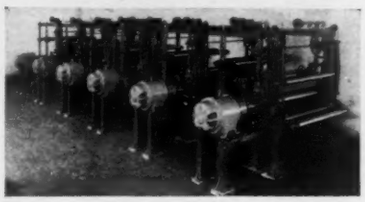
Full Width Print Washer.

Announcement is made of a new type full width print washer, with refinement of tension control at each nip. This feature is accomplished with an individual direct connected motor control at each nip using Crocker-Wheeler



Print Washer.

2-hp. adjustable speed motors and reducer units. This form of drive permits a speed variation of from 28 yards per minute to 126 yards per minute, making it possible to handle a wide range of fabrics, from delicate rayons and voiles to heavier cretonnes, it is pointed out.

Textile-Finishing Machinery Company, Providence, R. I.

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Patented Electric Guider.

A new electric automatic guider has been designed and developed for guiding or feeding cloth of various kinds and weights (from voiles to canvas and burlap) in the open width straight into any machine. Each guider is a separate unit and operates directly from the lighting circuit, consuming no more power daily than an ordinary light bulb, it is stated.

The Textile-Finishing Machinery Company, Providence, R. I.

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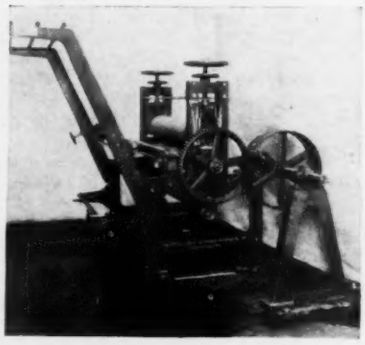
Patented Vat Dyeing Padder.

A special two-roll vat dyeing padder is designed to operate either as a separate unit or in range with continuous open width after treating and soaping machine. The padder is equipped with roller bearing on the nip rolls, and the nip rolls are supported in frames having features permitting operation in off-set position as well as vertical. The dye liquor box is fitted with Monel metal and is of special small capacity design.



Textile-Finishing Machinery Company, Providence, R. I.

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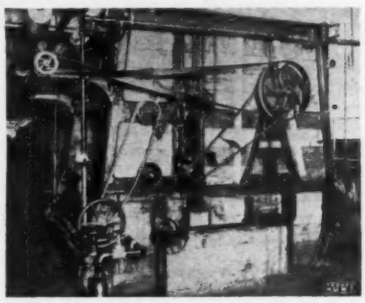
Combination Washer and Dye Kettle.

A combination washer and dye kettle combines the functions of the usual washer with a dye kettle, the goods being allowed to remain in the machine without removal between operations. The machine is being used for



Combined Washer and Kettle.

the three operations of scouring, dyeing, and speck dyeing in a number of mills. The manufacturers point out that the arrangement of the machine saves time ordinarily used in removing the goods from the machine, eliminates sewing and unsewing, and makes for brighter and more uniform shades because of the fact that the entire set is scoured and dyed under the same mechanical conditions.

Rodney Hunt Machine Co., Orange, Mass.

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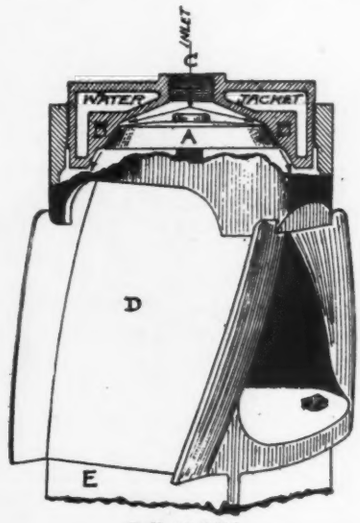
Colloid Mill for Color Mixing.

A colloid mill for use in color mixing to provide proper dispersion of pigments, is shown in the accompanying illustration. The materials to be processed flow by gravity through the feed *C* into the mixing chamber where the rotor *A* impels the material through the clearance between the rotor and the stator *B*. The material then discharges through the spillways *D*. It is pointed out that positive adjustment of the clearance between the rotor and stator is included to prevent any large agglomerates from passing through without thorough disintegration. The faces of the rotor and stator are stellite, an alloy which cannot be machined but is ground with carborundum to the proper size. The equipment is made with 5 and 6-inch rotors to make convenient the use of several small mills rather than one large one. It is explained that the colloid mill is not a grinding device, but a dispersing device, whose action depends on the shearing effect between two surfaces, which, while not in actual contact are separated only by a very few thousandths of an inch.



Colloid Mill.

Premier Mill Corporation, Geneva, N. Y.

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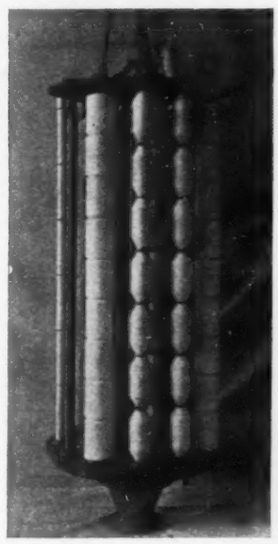
Dyeing Roving and Cones.

A new development has been designed to permit the dyeing of roving bobbins, and yarn cones, in the Gaston



—dyeing roving and cones.

County system of dyeing. It is explained that this facilitates the handling particularly of sample orders by expediting the making up of yarn samples. The waste of material, and extra amount of time required in running small orders through from dyed raw stock is eliminated, it is pointed out.

Gaston County Dyeing Machine Co., Stanley, N. C.

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Automatic Recording and Controlling of pH.

A flow-type quinhydrone has been developed to make automatic control practicable in determining and controlling hydrogen ion concentration (pH value) in connection with water purification, scouring cotton or wool, soaking silk, degumming silk, mercerizing and bleaching cotton, de-sizing cotton, etc. This electrode is suitable for solutions in a range from 1 to 9 pH which are not strongly oxidizing or reducing, are free from suspended matter which would clog the flow channel in which the electrode is installed, and are within the temperature limits of 5 and 40 degrees C. The recorder used with the

electrode is an automatic potentiometer which is provided with means of compensating automatically for the effect of temperature on the potential of the electrode, so that the scale of the recorder can be calibrated in pH units. The regular scale range covers at least four units, as, for example, from 4 to 8 pH. The recorder can be equipped with adjustable switch contacts which can be set to operate signals at predetermined maximum and minimum pH; or, since the quinhydrone electrode responds so quickly to change in pH, the contacts can be used to actuate control devices for keeping the solution at some desired pH within narrow limits.

Leeds & Northrup Company, 4901 Stenton Ave., Philadelphia, Pa.

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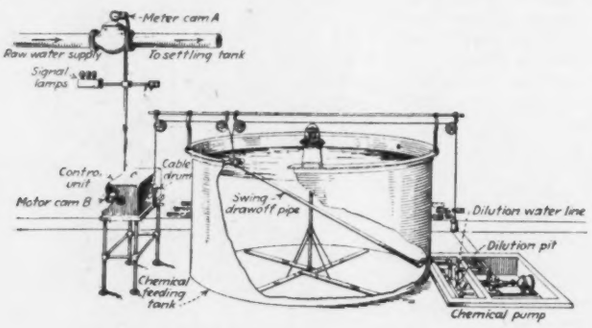
Electro-Chemical Feeds.

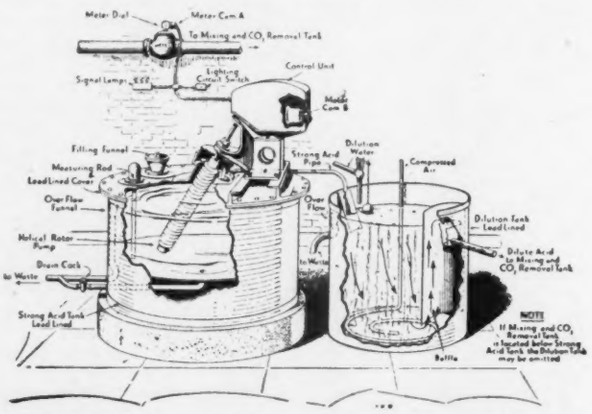
Two new types of electro-chemical feed-the swing drawoff and the helical rotor type—are designed to feed chemicals in accurately proportioned quantities. The swing drawoff type is particularly for use with lime soda water softeners; the helical rotor type for feeding corrosive acids.

In the swing drawoff type, the principal features are the swing drawoff pipe, a control unit with cable drum which lowers the swing drawoff pipe, and a water meter. The meter is electrically connected to the control unit. When a given volume of water passes through the meter, contact is made and a motor in the control unit operates the cable drum, thus lowering the swing drawoff pipe a definite depth and feeding a definite volume of chemical. The manufacturers point out the following features: the feed is controlled but not operated by the meter, and is accurate over wide ranges of flow; no extra load is placed on the meter to cause it to slip, etc.; a fractional horsepower motor assures simple and positive operation; there is no unrestricted chemical flow, no orifices or small passages to become clogged; signal lamps indicate how the feed is operated; adjustments are easily made.

In the helical rotor type, a helical rotor pump lifts and measures the chemical. The pump is driven by a motor which operates after a given quantity of water has passed through the motor. For different acids, etc., suitable non-corrodible materials are provided as linings. In addition to the features described for the swing drawoff type, it is pointed out that, in the helical rotor type, the strong acid is completely enclosed; over-feeding cannot occur since an accident can only decrease the amount of chemical fed or stop the flow entirely; the pump is a positive displacement pump which merely rotates in the solution, with no rubbing parts, valves or small passages.

The Permutit Company, 440 Fourth Ave., New York City.





Above, swing draw-off type of electro-chemical feed; to right, the helical rotor type.

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Rubber Lining and Covering for Tanks, Pipe, Bobbins, Rolls, Etc.

The development of rubber as a lining and covering on special equipment in the textile industry has produced the following results: All tendency for the rubber to oxidize, surface-harden, or change in density or hardness has been overcome; rubberized equipment does not deteriorate in storage; and, due to the strong bond of the rubber to the metal, it cannot be removed without destroying, it is pointed out.

Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

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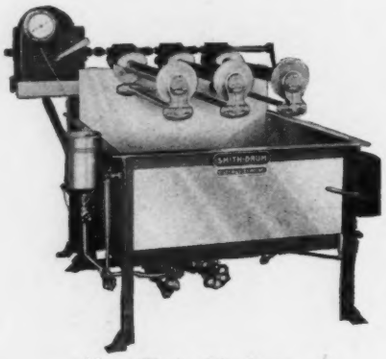
New Skein Dyeing Machine.

A new type skein dyeing machine operates on the principle of the movement of both yarn and liquor. The yarn is suspended on a hollow stationary tube or support over a tank or container for the dyebath. The liquor is drawn from the tank by means of a pump, and forced upward and through the tube or yarn support on which the yarn is hung. The design of the tube or yarn support is such that a large volume of liquor at low pressure is forced through the yarn, causing the skein to rise from the tube and hang suspended in a floating condition. The flow is so controlled that it completely covers the skeins both inside and out, it is pointed out. After passing through and over the yarn, the liquor pours into the tank. The process is repeated at such a rate that the entire bath goes through and over the yarn about once per minute.



New Skein Machine.

Smith, Drum & Co., Allegheny Ave., below 5th St., Philadelphia, Pa.

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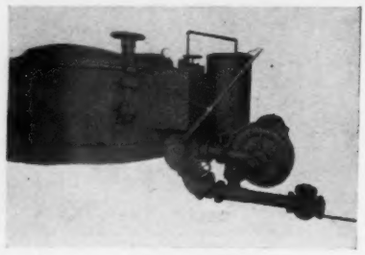
Raw Stock Dyeing Machine.

A new raw stock dyeing machine, of the closed or pressure type, is furnished, in the regular size, which has a capacity of 1000 pounds to the batch, with either belt, motor, or engine drive. The cotton or other material to be dyed or bleached is placed in the bowl of the machine and the top clamped down by means of heavy bolts. The machine is so constructed that in the process of operation, it is pointed out, the material and dye liquor do not come in contact with the air. The dye liquor is forced through the material to be dyed or bleached by means of a centrifugal pump, and by means of a special four-way valve, simply by moving one lever, the dye liquor is reversed, so that instantly it is forced from the bottom of the machine upward through the material being dyed, and by simply moving the lever, the liquor is instantly forced from the top of the machine down through the cotton. In washing out, the same method is used.



—for raw stock.

Vacuum Dyeing Machine Corporation, 1603 Cowart St., Chattanooga, Tenn.

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New Dye Kettle.

A new line of dye kettles, known as "True-Shade", are of all-metal, stainless, construction. Wood is eliminated,

the kettles being made throughout of castings and plate metal. It is stated that color changes can be made at will without regard to the shade previously dyed.

Rodney Hunt Machine Co., Orange, Mass.

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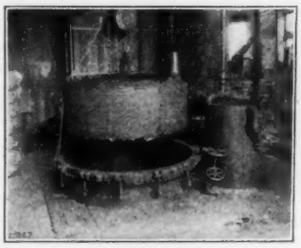
Cotton Raw Stock Dyeing Machine.

A cotton raw stock dyeing machine, which dyes in a closed kier, has been introduced. This feature, it is explained, eliminates dyehouse fog and its consequent disadvantages. The machine agitates the liquor through the stock, this feature being designed to leave the stock in excellent condition and effect savings in waste and subsequent manufacturing processes. The stock is unloaded after dyeing, by hoisting it out of the machine in a solid cheese and transferring it to a truck or direct to squeeze rolls by means of a trolley hoist. The machine is made of iron. Circulation is provided by a motor driven pump.



Franklin Process Co., Providence, R. I.

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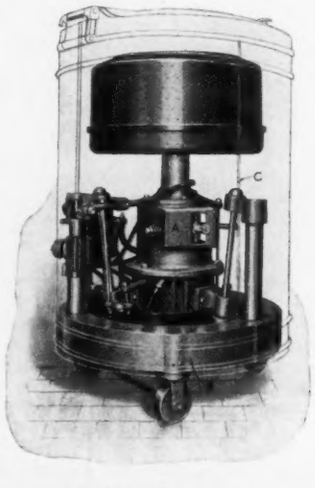
Portable Centrifugal Extractor.

A new portable centrifugal extractor consists principally of a cast iron base mounted on three rollers, Monel metal shell, 18 inch basket, centrifugal clutch, built-in mechanical brakes, and driving motor. The unit may be moved easily from place to place. Three vertical posts support the working unit through the use of free-swinging suspension rods. The extractor basket is a combination of a cast bronze center column and base to which is attached a spun copper side and top, these parts being joined together by soldering and riveting. The holes in the side of the basket are drilled and counter-sunk. The motor-shaft is gradually connected to the basket driving spindles through the use of a special centrifugal clutch. This clutch is a part of the safety device which makes it impossible to start the basket with the cover of the extractor open or to open the cover while the basket is in motion. The cover, of cast aluminum, incorporates a safety mechanism. There is an automatic device which is tripped and cuts off the current and applies the safety brake, in case the basket for any reason should start to oscilliate beyond a safe limit. The same brake is used in stopping the basket when the stop lever is operated. A tapped drain is provided in the shell for the removal of the extracted liquid. Alemite fittings are used for lubrication.



Portable Extractor.

Textile Machine Works, Reading, Pa.

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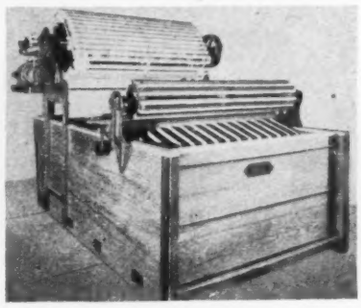
New Silk Dye Beck.

In a new silk dye beck, it is explained, a new design of the tub allows approximately 25 per cent less liquor for a given load, while effecting a consequent saving in steam consumption and time. A novel mechanical feature is the use of rubber covered reel and front roll spiders, for giving effectively the result of stainless metal. The design of the pin rail is also new for aiding in eliminating damage on light rayon fabrics, etc., due to chafing.



New Silk Dye Beck.

Rodney Hunt Machine Co., Orange, Mass.

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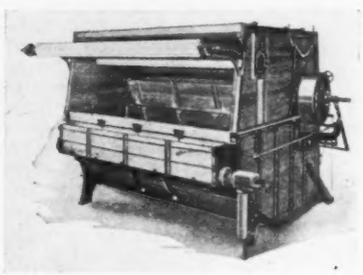
Improvements in Washers.

In the improved type Clipper washer, the shape of the tub is such that light and delicate goods may be processed without stretch or grain, it is pointed out; and the design is such as to allow of a large capacity per foot of floor space. Saving in time of scouring is effected through the use of the non-leaking Paisley type of suds box; designed for a saving in soap as well as water.



"Advanced Clipper" Washer.

The application of the counter current flow principle to the washers has been made for incorporating the cleaning, handling and finish properties of the regular machine, and a saving in water used. By arranging several compartments in the machine, the company states, and by introducing the water at the opposite end to the goods, it is possible to cut down the amount of water required for a thorough cleansing almost to a trickle. The principle is applied to both the slack loop bleach house washer and the tight strand washers.

Rodney Hunt Machine Co., Orange, Mass.

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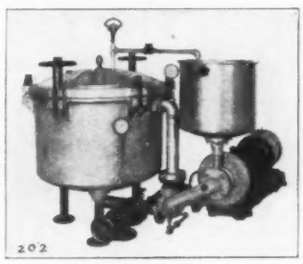
Silk Soaking Machine.

A new silk soaking machine reduces the time of soaking silk for throwing from twelve hours by the open tub method to about one and one-half hours or less, it is explained. The soaking is done in a closed kier under pressure. Superior and more even penetration is claimed; also a saving in soap and oil of from 20 to 40 per cent, due to the fact that the machine will exhaust the bath 80 to 90 per cent; and better tinting.



Franklin Process Co., Providence, R. I.

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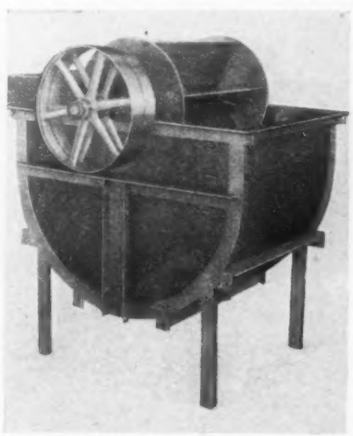
Monel Paddle Dyeing Machine.

A recently developed dyeing machine is a Monel paddle dyeing machine with supporting frame of cast iron, or aluminum. The vat containing the dye liquor and the paddle are made of heavy Monel metal. The dye is heated by means of steam entering through a perforated brass pipe in the extreme bottom of the vat, and over this pipe is a "false bottom" of heavy Monel metal with embossed perforations to prevent the hosiery coming in contact with the heating pipe, and to act as a strainer to keep the goods away from the drain when the outlet valve is opened. The



Monel Paddle Machine.

Monel vat is supported in a heavy frame, and in the new machine this frame is made of cast iron or aluminum. The machines are built in all sizes to handle from three pounds to one hundred pounds per load.

Rome Machine & Foundry Co., Rome, Ga.

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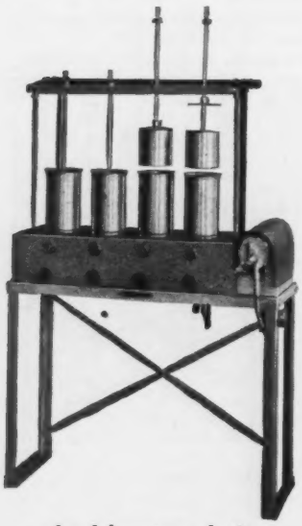
Laboratory Hosiery Dyeing Unit.

A new machine is a laboratory unit designed for the dyeing of hosiery samples. This unit consists of four small machines to make it possible to dye up four different colors at one time, with one or two pair or stockings



—for laboratory dyeing.

for each sample. The machine is built of all Monel metal. It is designed to permit the modern dyehouse to turn out sample work equal to regular production work.

Smith, Drum & Co., Allegheny Ave., below 5th St., Philadelphia, Pa.

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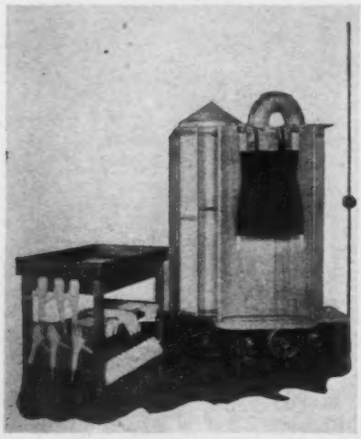
Garment Finishing Machine.

In a garment finishing machine, for rayon undergarments, etc., the process is as follows: Each garment is hung in a separate cabinet on an adjustable hanger. The three cabinets pass from one stage to another automatically. The first stage is loading and unloading where the operator stands to put the unfinished garment on and take the finished garment off. The second stage is steaming; the cabinet is shut inside a chamber by doors which open and close automatically, a valve opens automatically and fills the chamber with live steam, then closes. The third stage is the drying stage where the garment is subjected to a strong blast of hot air which fills it and shapes it to the form for which it was cut. The garment then returns to the first stage finished. The complete operation requires thirty seconds on medium speed, it is explained, but with three garments in process one is taken off every 10 seconds.



—rapid garment finisher.

Grand Rapids Textile Machinery Co., Grand Rapids, Mich.

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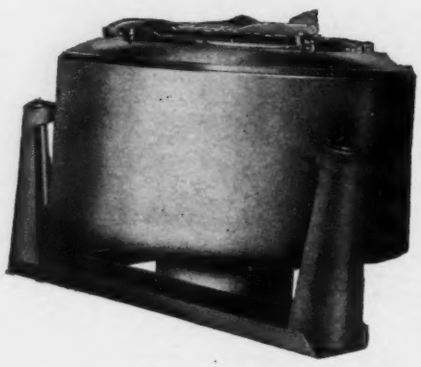
Direct Motor Driven Open Top Extractor.

A new open top extractor has a direct motor drive under the extractor, requiring no pit; providing a flexible unit which may be moved. The extractor has only one moving part, with two ball-bearings, grease packed. A self-balancing feature is secured by three-point suspension, with no springs or rubbers. It is equipped with full automatic interlocking safety guard. The height and shape of the machine, together with a narrow top rim, are designed to make loading and unloading easier.



Haring & Stephens Co., Paterson, N. J.

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Single Conveyor Machine for Drying Raw Stock.

A recent improvement in a single conveyor raw stock drying machine is the elimination of an independent exhaust fan and the substitution of an exhaust air duct on the fan chamber side of the machine. This, it is pointed out, reduces the expenditure of approximately 2 hp. per machine, and at the same time, by utilizing the natural air currents in no way interferes with the proper amount of damp air being excluded from the air in circulation. The machine is equipped with a swing shelf conveyor apron, consisting of a series of wire cloth sheets or shelves, galvanized after being woven, bound on the two short or side edges and in one long or following edge with galvanized sheet iron. The frame construction of the machine is entirely of cast iron. The panels are composed of two thicknesses of steel enclosing an insulation of air cell asbestos.

C. G. Sargent's Corporation, Graniteville, Mass.

Chemical and Sizing Materials

New Chemical Products.

A new oil, Castrolite, has been produced by a special process of sulphonation. It is offered as especially suitable for use where pure shades of white and colors are desired. The oil is not bleached. Velvo-Ray is a sulphonated olive oil produced by a modern method of sulphonation, and is available in three different forms; Velvo-Ray A, a thin acid oil especially adapted for finishing; Velvo-Ray No. 233, a thick neutral acid-resisting oil, for dyeing and finishing operations; and Velvo-Ray No. 233 A, a thin soluble oil, on the acid side, for dyeing being fast to organic acids. It is stated that these oils are highly sulphonated, very soluble and will not break in hard water, leaving the goods practically odorless, and will not go rancid. Zinc sulphate is manufactured by a special process, for making it free from chlorine, iron and other heavy metals, and clear and soluble and for meeting the U. S. P. requirements.

Royce Chemical Company, Carlton Hill, N. J.

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New National Oil Products.

Several items have been added to the Textoyl line. One of these is Textoyl 1392-AL, for cotton yarns and fabrics. The manufacturers state it "is extremely soluble in hot or cold water, forming a stable solution which tolerates the addition of acid and alkalies in dyehouse concentrations without separation. It is non-staining, and has remarkable softening qualities and penetrating quality, ability to level dyestuffs and impart hand. As a penetrant and level dyeing agent in the Franklin type of machine it is stable under pressure at high temperatures." This oil is especially designed as a finish on denims, chambrays, covert cloth, and similar fabrics, as well as white cotton yarns, especially brushed and combed yarns for knitted articles, and for dyeing of light shades on knitted underwear fabrics, where it acts both as a dye assistant and finish.

Another cotton softener and finish is Textoyl 1563, a water soluble paste. It is applied to heavy cotton yarns in an emulsion in a trough during quilling or used in the last rinse after scouring or dyeing skein yarns.

A non-staining, low viscosity, neutral, soluble rayon oil is Textoyl 1556. While developed especially for rayon yarns intended for knitting, the manufacturers state, it is designed also for use as a winding oil on rayon skeins to be used in weaving. Softening and lubricating features, lack of free fatty acids, and ease of washing out of fabrics are cited as its chief features.

A soluble oil for silk soaking, Textoyl 1571, was developed for softening

silk gums especially on high twist. though applicable for regular hosiery tram and broad silk yarns. A hosiery boil-off oil, Textoyl 1601, was designed to leave the hose in an even boiled off condition for level dyeing; 8 per cent is needed for chiffons, it is stated, though 9 to 10 per cent will give a soft finish without weakening the fabric. This compound, it is explained, exhausts slowly, permitting the inner folds to be treated. A finish for hosiery to be used in the last rinsing bath, for removing sleaziness, is called Textoyl 1447-B, while Textoyl 1583 is a backwinding compound for full-fashioned yarns.

National Oil Products Co., Harrison, N. J.

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New Soaps.

"Brosco Dri-Sopes" is the name of a new line of neutral boiled and settled soaps. The line covers olive, palm, oleine, tallow and special products. A characteristic emphasized is that these products are in small, solid, compact particles of a uniform size and shape, which "do not break, powder or dust when handled, but pour like dry sand." They are, it is stated, 98 plus per cent anhydrous, with less than 2 per cent moisture.

Other new developments include "Brosco Dull Finish" for silks, "Brosco Finishing Compound S. P." a waterproofing and splash proofing compound for all fibers; and, "Brosco Scroop Oil" for scrooping cotton, silk, rayon, etc., in one bath.

Scholler Brothers, Inc., Amber and Westmoreland St., Philadelphia, Pa.

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New Houghton Products.

A new product is Warplubric, a cream-colored, opaque product which, it is pointed out, contains no fatty matter, either saponifiable or unsaponifiable. It does, however, contain gum binders and adhesive agents. It is for use in conjunction with sizing products, its purpose being to increase the weight of warp without greatly increasing its stiffness; to produce a smoother, brighter warp with additional strength; to give a better lay of the fibers; to improve weaving production; and impart a desirable feel and handle to the goods.

Tallowlubric A is a tallow in brick form, soluble and readily dispersed in starch solution. Its function is to provide a more intimate mixture of starch and tallow. It is pointed out that it is uniform in color, physical and chemical properties.

For producing a luster finish on broadcloth and similar fabrics, Sol Lustre No. 3 was designed, and, it is pointed out, is suitable under modern conditions of raised temperature and higher speeds on dryers in finishing plants. Soluble Wax No. 1 is another finishing material particularly designed for backfilling fabrics such as bag cloth and for dressing sash cords, shoe laces, etc. Being a soluble wax, it is pointed out, it stays mixed with the backfilling solution without separating, and acts as a binder and adhesive agent to hold the inert material in the fabric.

Combining the characteristics of castor oil and tallow was the purpose of Cottonlubric No. 36, which, it is stated, stays mixed in the finishing solution and does not form a gum or deposit on the sides of the machines. Cottonlubric No. 39 is a snow-white highly- concentrated softener for mercerized yarn, in which the fatty matter has been emulsified by a new chemical process.

For full-fashioned and seamless silk hosiery, Silklubric No. 30 is a saponifiable, claret-colored soluble silk soaking oil, containing no mineral or hydro-carbon oil, it is explained. The manufacturers state that, "it readily mixes with water in the soaking bath, has quick penetrating properties and produces a level tinted silk; it does not open up the fiber, nor strip or remove the gum, nor cause hard bobbins." For high twist tram stocking silk, No. 100 Sulfol was produced as a penetrator silk softener and lubricant for use with No. 30 in the soaking bath to impart additional softness, pliability and lubricity to the silk. For rayon and crepe goods, Raylubric Throwing Cream was developed, which, it is stated, is a snow-white paste readily soluble in warm water, "containing no mineral oil, waxes, etc." It may be used over again in subsequent soaking baths, and, it is stated, is readily boiled out and removed from the goods during the dyeing and finishing operation.

E.F. Houghton & Co., Philadelphia, Pa.

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New Finishing Product.

A new product, Textolite, has been designed as a kier boiling agent, for de-gumming and de-waxing, combined water softener and cleanser, scouring agent, rinse accelerator, size remover, for preventing formation of soap curds and doughballs, soap saver, detergent, etc.

It is pointed out that the product has three outstanding characteristics: strong detergent power in comparison to an exceedingly mild alkalinity or causticity; strong buffer effect, holding in reserve its causticity and releasing it only as and when the causticity of the solution is neutralized; and the property of eliminating temporary and permanent hardness in water. The pH value of the solution is maintained on the level, it is pointed out, and the product has a tendency to spread its buffer effect over other alkalies in the solution. It is stated that it works in harmony with all boil off, degumming, wetting out and dye bath materials where it is chemically possible to use an alkali. It is further stated that the product "opens up both cotton and silk, in raw and finished state, for a quicker and more thorough and even penetration; adds its detergent and penetrating quality to a solution and increases the efficacy of other materials; and, because of its detergent properties and buffer effect, permits a reduction in the caustic strength of the solution while increasing its power of elimination of impurities; and, in addition, prevents the formation of insoluble soap compounds called curds or doughballs, in the open vat, whether the boil-off and dyeing is done as one or two processes; and opens the stock for permitting a thorough penetration of dye and leveling of shades."

International Agricultural Corp., Iaco Department, Mortgage Guarantee Bldg., Atlanta, Ga.

Improvements in Starch.

Improvements in Eagle starch during the past year have been with the purpose of greater uniformity of moisture content and fluidity of paste; reduced sediment or residue; absence of soluble substances with no starch value; and cleansing of the air used for drying starch. In connection with the use of starch, it is recommended that the starch is thoroughly "creamed" by stirring with cold water before admitting steam.

Corn Products Refining Co., 17 Battery Place, New York City.

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Liquid Soap.

Olitex is a new product developed as a liquid soap for use in the textile industry. It is stated that it affords less handling, more ease in making additions to the de-gumming and scouring baths, and acts as a buffer for alkalies that are added to the operation. It is further stated that de-gumming and scouring operation can be accomplished at a lower temperature. Further, it is pointed out that a soft silky feel is produced, without sleaze, friction and crows feet. The product is especially offered for tram, rayon and wool hosiery. The method for de-gumming, either one bath or two baths, is to use 8 per cent on chiffons and 10 per cent on service weights. For scouring rayon, wool or mixed fiber hosiery, four per cent is suggested. The product is also offered for use in de-gumming pure silk, holding the mill dirt, winding oils and gum in suspension during the boil-off, making it readily wash out.

American Aniline & Extract Co., Inc., Philadelphia, Pa.

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New Size Products and Chemical Equipment.

Mainly for fine and fibrous yarns, a new product, Atkivin-S-Special, while based on Atkivin, differs from Atkivin-S in that it produces a viscous, instead of a thin flowing size, upon boiling. This, however, penetrates due to a high inner smoothness, it is stated. It is further pointed out that the sized yarn dries quickly and the single threads separate easily. It is stated that two per cent of the product should be added to the quantity of starch used, and the mixture should boil for about 15 minutes.

Another p-Toluolsulfonamide derivative, is Peraktivin, with two atoms of chlorine available. This is not soluble in water, and is dissolved first in diluted caustic soda solution, and this solution diluted with water to the desired strength. For many purposes, it is stated, this solution is either neutralized or acidulated, the Peraktivin separating again in very fine dispersion and redissolving gradually according to the degree to which it is utilized by the treated material. Used mainly as an addition to kier boiling, for bleaching rayon and for chlorination of wool.

An analytical control apparatus is intended to give a quick picture of the quality or value of important chemicals used in baths, and also to control the chemical progress of the working process. It may be read without calculating. A hydrosulfometer is a graduated glass cylinder with a measuring

solution, for determining the reducing power of hydrosulphites and their related chemicals. The vatometer is for determining the content or reducing power of a vat. The volume of oxygen used by 10 ccm of the vat for its complete oxidation is measured, giving a direct measurement for the content of the vat and the quantity of hydrosulphite necessary for its regeneration. The oxometer is a graduated glass cylinder and a measuring solution, for determining the value of hydrogen peroxide, sodium perborate, etc. The sapometer is a glass flask with a long neck of constant diameter for determining the content of fatty acids in soaps and Turkey red oils.

The Aktivin Corporation, 50 Union Square, New York City.

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Delustering Agent.

A product called "Delustrol" has been produced as a delustering agent, for silk and rayon fabrics. It is stated that the product can be applied in the last rinsing bath at room temperature, running the material in the delustering bath for 15 to 20 minutes. Delustering before dyeing on materials that are to be dyed to heavy shades is recommended. It is also suggested that if the material is extracted immediately after it has been taken from the delustering bath a certain percentage of Delustrol would be removed from the fiber before it had an opportunity to become impregnated. Also, exposing the material to the air for approximately 15 minutes before being dried or extracted, to allow the Delustrol to set in the fiber and to produce greater delustering efficiency, is also suggested.

Arkansas Company, 233 Broadway, New York City.

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Formic Acid.

The manufacture of formic acid 85 and 90 per cent in the United States has become more extensive in recent years. As an exhaust acid in dyeing operations, it is stated, it is attracting more and more attention, especially on wools and silks, as well as in some printing operations on cottons and some thread dyeing in connection with rayon and wool. It is stated that formic acid gives satisfactorily bloom shades and feel, and that, even though not thoroughly rinsed out, does not tender the fiber.

Grasselli Chemical Co., Cleveland, Ohio.

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Products for the Removal of Starch, Etc.

Diazonol A. C., has been introduced as a product for the removal of starch, waxes and pectin matter in one operation. It is stated that this has no fatal temperature point, and works efficiently at the boil, so that it can be used directly in the kier, on a jig, or continuous machine to desize and boil out in one operation. It is soluble in hot water, it is stated, and can be added directly to the kier while being charged. It is also designed for use alone in de-sizing and boiling off rayon fabrics on a jig, without the use of soda ash, caustic soda or other assistants.

Arkansas Company, Inc., 233 Broadway, New York City.

New Finishing Materials.

Among new developments in the Kem line of soluble oils, sizings, finishes, softeners, penetrants and detergents are: An acetate size for warp sizing Celanese and other acetate rayons; Kapeco gum, for use in sizing, finishing and thread polishing, especially for finishing rayons; a series of soluble mineral oils non-separating as to each oil itself or its emulsion in water; a range of assistants for wetting out, leveling, penetrating, kiering and scouring; several special soaps, including hexalin soap and triethanolamine soap; a series of rayon oils, including soluble rayon oils, as well as others not directly miscible with water but easily scoured; a new pine oil; and several new cream softeners, a new finishing compound for woolens and worsted, and several varieties of sulphonated oils.

Kem Products Co., 227 High St., Newark, N. J.

Olate for Rayon Finishing.

Conclusive laboratory and plant tests have been made with Olate, a new product for rayon finishing, and it is being used in scouring, dyeing and finishing of viscose, nitro-cellulose, cuprammonium and acetate rayons in underwear tubing, hosiery, and woven goods. It is to emulsify knitting oils, remove black streaks, etc.

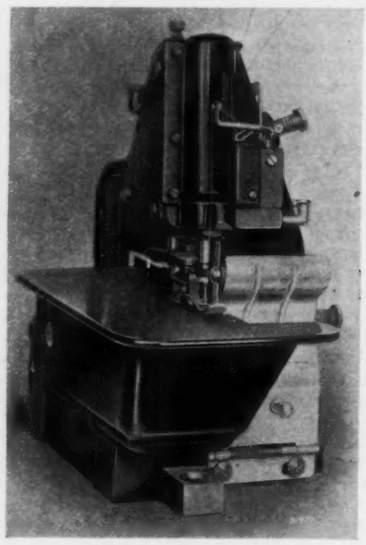
Among other claims made by the manufacturers are: "It produces clean rayon without injury to the fiber, giving it a soft, smooth, rich finish, without unpleasant odor. In the dyebath it keeps the fibers soft and open to receive the dyestuff evenly and rapidly, and lubricates the fibers so as to prevent chafed or broken filaments."

The Procter & Gamble Distributing Co., soap chip sales department, Cincinnati, Ohio.

Sewing Machines and Similar Equipment

New Over-Edger.

A new line of over-edging sewing machines embodies advanced designs. The machine shaft is located directly over the main operating elements, and not in the lower part of the bed. The needle bar is driven directly from the main rotary shaft by a link which is



—for over-edging.

under tension on the down stroke. The loopers are driven directly from the main shaft. The feeding mechanism is operated directly from the main shaft by eccentric connections that are under tension during the feeding stroke. All of the features are made possible by positioning the main shaft at an acute angle above the work support and directly over the driven mechanism, it is explained. All bearings are scientifically bushed, and are lubricated by a special oiling system which embodies a central reservoir for automatically oiling the eccentric straps. Waste cut is collected in a glass jar below the sewing table and under the bed. The base occupies only six inches of table space. The machines are made for either two or three ends of thread in the stitch formation. The speed is 4,750 r. p. m.

Union Special Machine Co., Chicago, Ill.

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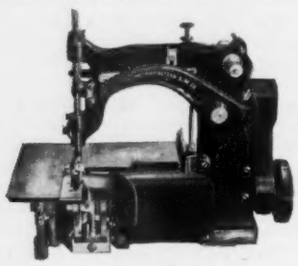
Sewing Machine for Butted Seams.

Butted flat seams are made on a new sewing machine which stitches the ends of two pieces of goods, one upon the other, with a stitch that hinges out and opens flat when goods are stretched lengthwise. Another machine, for under-the-arm work, makes flat seams of



—for butted seams.

various widths, to securely hold them during processes. Other new models are designed for making pinked seams, lap seams, ruffling, shirring, tucking, multiple cording, applique work, binding, piping, hemming, pleating, and other operations.

Metropolitan Sewing Machine Corp., Nyack, N. Y.

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Sewing Machine with 40 Inch Space Under Arm.

A high speed, long arm sewing machine, for seaming canvas and other heavy materials, has been created with 40 inches of space to the right of the needle bar. An unusual feature of the construction is that the top rotary

shaft for driving the needle bar is located at an acute angle to the main lower shaft. This, it is pointed out, permits the use of a direct connection between the new shaft by only two gears, which run in an oil bath, so that both shafts are alike insofar as speed and power are concerned. This drive allows the use of the long upper arm, giving the 40 inches of space to the right of the needles. The sewing head is self-contained and can either be placed on the sewing table or on a strong angle iron stand fitted with casters, the latter making a portable unit, complete with motor, thread stands and treadles. It is intended that the machine be fitted to produce triple stitching, as well as double stitching, narrow or wide row stitching, and single row stitching.

Union Special Machine Company, Chicago, Ill.

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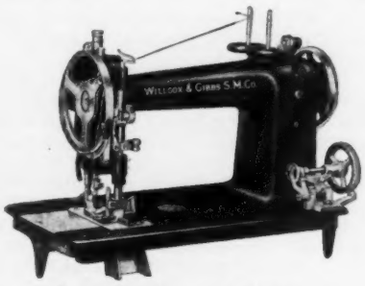
Trimming and Binding Machine.

A high speed lockstitch trimming and binding machine, designed primarily for clothing, wash suits, house dresses, etc., is applicable on all operations requiring combined trimming and binding effects, it is pointed out by the manufacturers, who list the following high



—for trimming and binding.

points of the trimming and binding mechanism:

A positive locking device when the trimming mechanism is in operative and inoperative positions. Means for providing quick adjustment of both upper and lower trimmer knives. Trimming adjustment from 3/32-inch to 9/32-inch obtainable without the substitution of any parts. Throw-out binder which can be removed as a unit for immediate substitution of different size binders. The machine operates at 3,500 stitches per minute.

Willcox & Gibbs Sewing Machine Co., 656 Broadway, New York City.

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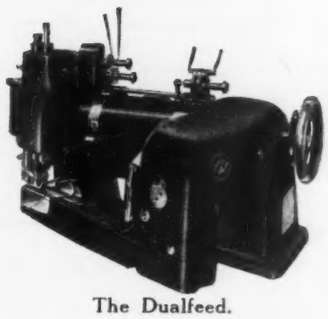
Feldlock Dualfeed Machine.

The construction of the Feldlock Dualfeed machine, a new type of felling machine for manufacturers of overalls, work shirts and similar materials, is along the lines of the Feldlock, incorporating the feed-off-the-arm principle, with the addition of "Dualfeed," a unique development which embodied with the Feldlock, is designed to produce a feed movement on the top of the material synchronized with the under feed movement, to make possible the seaming of heavy fabrics with both sides ending evenly; and to eliminate cross seams. The machine is furnished with two or three needles, and the manufacturers point out that its scope includes all tubular seaming operations and can be applied for sheet seaming



The Dualfeed.

and end seaming in bleaching and dyehouses as well as in the manufacture of children's play suits, windbreakers, etc.

Willcox & Gibbs Sewing Machine Co., 656 Broadway, New York City.

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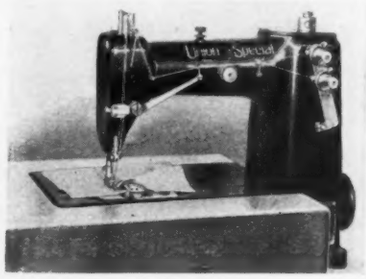
New Line of Sewing Machines.

A new line of sewing machines, known as the 50,000 series, has been introduced with distinct departures from previous standards. All main moving parts are totally enclosed, with



—high operating speed.

vibration being reduced to a minimum. The most outstanding feature of the series, it is pointed out, is the exceptionally high operating speeds, from 3,800 to 4,200 r.p.m. Other distinguishing features pointed out are instantaneous pickup, more uniformity of work, better lubrication and no oil leakage, and the ability to handle fine threads. The series is built in a wide range of styles.

Union Special Machine Company, Chicago, Ill.

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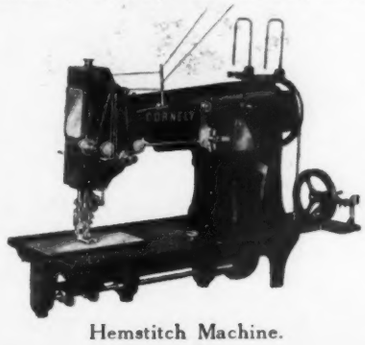
Hemstitch Machine.

A high speed, two-needle hemstitch machine is the latest development in the Cornely line. A positive spiral gear drive is used for smooth running. The machine operates at 2,250 stitches per minute. It is stated that the machine is especially adapted for a wide range of work such as underwear, dresses, blouses, table linens, sheets



Hemstitch Machine.

and pillow cases.

Cornely Co., Paris, France, represented by Willcox & Gibbs Sewing Machine Co., 656 Broadway, New York City.

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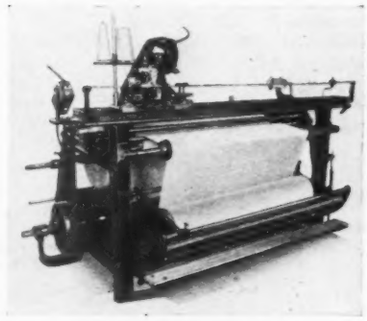
Opening, Sewing and Re-Rolling Machine.

The Merrow butted seaming head has been applied to the customary opening, sewing and re-rolling machine, railway type, as well as others. This trims the waste edges off of the goods



—butted seaming on railway type.

simultaneously with and just in advance of the stitching operation, and the flat, butted seam facilitates the passage of the goods through processing machines. The material may be seamed in either the wet or dry condition.

Dinsmore Manufacturing Co., Salem, Mass.

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Lockstitch Intermittent Ruffling Machine.

In a lockstitch intermittent ruffling machine, adaptable especially for yoke ruffling operations on shirts, a mechanism controlled by a foot pedal makes possible the application of the intermittent ruffling feature at the will of the operator. The machine is also used for long length ruffling. It operates at high speed and makes a lock stitch.

Willcox & Gibbs Sewing Machine Co., 656 Broadway, New York City.

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Celotex Combined with Cement Board.

A new insulation product called "Cemesto-Board", combining the advantages of Celotex and fireproof asbestos-cement board, has been put on the market. "Cemesto-Board" is made of Celotex, in thicknesses of ½ to 2 inches, encased between two ⅛ inch layers of asbestos bonded with a special waterproof adhesive and hydraulic pressure. It is also made in all thicknesses with one side only surfaced with asbestos. The standard size is 4 x 8 feet, but smaller sizes are available.

Cemesto-Board is designed for use in the construction of low temperature dryers, industrial partitions, siding for industrial buildings, roof decks, and in various other places where a combination of insulation, structural strength, and a high degree of fire retardation is required. It can be readily cut by hand or power saws, nails well, and can be painted with any cement paint such as those with a casein base. It is acid and acid fumes resistant.

The Celotex Company, Chicago, Ill.

Power Generation, Transmission, Drives and Electrical Equipment

Welded Boiler Drums.

A new development in boiler construction is the increasing interest in welded as contrasted with riveted construction of boiler drums. A satisfactory method for doing this has been developed after considerable research, and 94 fusion welded power boiler drums for use in United States Navy vessels have been supplied. The A. S. M. E. Boiler Code Committee has been working on a revision of the present code, it is understood, which will include regulation governing welded boiler drums.

The Babcock & Wilcox Company, 85 Liberty Street, N. Y. City.

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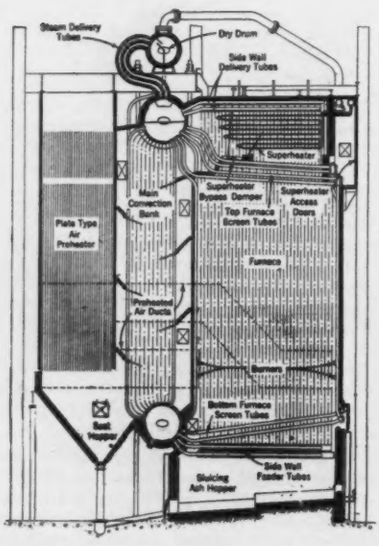
Steam Generator.

A standard steam generating unit built in various sizes and providing a wide range of capacities at any desired conditions of steam temperature and pressure has been developed. This design combines in one unit all the elements required for fuel burning, steam generation and super heating, heat recovery and ash disposal. To those familiar with the development of pulverized fuel firing and the history of steam generating practice, there are no novel or radical departures from fundamentals, but rather the design represents a highly compact and simple arrangement of long and well established elements. The sketch shows the



apparent absence of the maze of pipes, headers, etc., exterior to the boiler casing. These pipes and headers essential for completing the circulation system of water walls are located entirely within the casing, where, in addition to performing their normal function as circulators, they also serve as highly effective heat absorbing surface. The casing is air-tight and dust-tight throughout, it is explained. All four walls of the furnace are water-cooled, each wall being composed of a solid row of tubes with only sufficient space between them for construction requirements. The water-wall feeder and delivery tubes, at the bottom and top of the furnace respectively, complete the heating surface of the furnace proper nearly all of which is exposed to radiant as well as convection heat. Another feature of interest is the superheater by-pass damper which affords a means of controlling superheat temperature. Adequate space is provided for the superheater which is so located in the assembly as to permit of simple supports and a degree of accessibility unusual in boiler construction.

Combustion Engineering Corporation, 200 Madison Ave., N. Y. City.

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Electric Drive for Stokers.

An electric drive has been developed for Type E and Type K stokers of the Combustion Engineering Corporation, as an alternate to the steam drive. A constant speed motor provides the power. However, eight speeds and a neutral position are provided by the use of a simple and unique timing device. On stokers having up to 50 square feet of grate area, the fan is integral with the electric drive. Stokers having a larger grate area have separately motor-driven fans. It is pointed out that with this electric drive, the length and strength of the speed strokes are always constant, that there are no delicate parts to get out of order, and no clutches.

Combustion Engineering Corporation, 200 Madison Ave., N. Y. City.

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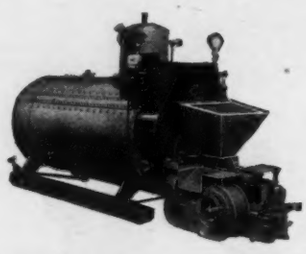
Automatic Underfeed Stoker.

An automatic underfeed stoker is designed especially for internally fired boilers. It has totally enclosed dust-

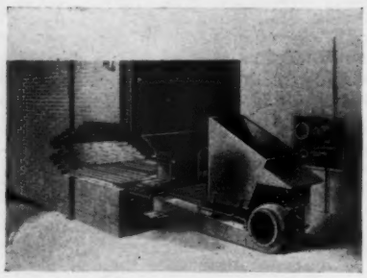


proof gearing operating in an oil bath, automatic safety protection, and compact unit construction. Electric motor drive is standard equipment, and sizes range from 15 to 200-hp.

The James Leffel & Co., Springfield, Ohio.

Automatic Coal Burner.

An automatic coal burner—the Iron Fireman—is made in a range of sizes and models for heating and power plants, up to 250 boiler horse power. The new models, built of pressed steel, have advanced features of design and construction which include: continuous feed transmission with three-speed gear shift; electric motor and V-belt drive; safety overload device; quiet ball-bearing fan supplying forced draft to fire; automatic fire banking damper; positive pneumatic fume elimina-



"The Iron Fireman."

tor; section retort especially designed to allow for heat expansion; dead plates of heavy iron and ribbed; section self-cleaning tuyere blocks; conveyor screw of one-piece; automatic electric controls.

The device feeds coal to the fire, as needed, in a steady stream from below, eliminating hand firing. Operation is governed by thermostatic or pressure controls, which start and stop the machine automatically, and hold boiler pressure or room temperature at any desired point. A "forced underfiring" principle, it is explained, is designed to cause the gases in the coal to be distilled off and burned as they approach the fuel bed, to eliminate smoke nuisance and create greater heat from a given amount of fuel. Fuel saving, and steady boiler pressure, are among the results, it is stated.

Iron Fireman Manufacturing Co., Portland, Oregon.

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Electric Steam Generators.

A line of electric steam generators is for application where steam is needed but is not available in sufficient quantities or at suitable pressure. The line includes two pressure ratings—100 and 200 pounds—in various sizes and electrical ratings. The generator is provided with standard boiler fittings, including a safety valve, steam gauge, water column, blow valve, steam valve, etc. A typical control equipment consists of a magnetic switch and an automatic pressure governor which, when operated in conjunction with a low-water alarm, automatic heat-shut-off switch and some device for automatically feeding additional water to the generator, makes the equipment automatic in operation.

Advantages as listed by the manufacturer include the following: no stacks or flues required; completely automatic operation; can be built into the device to be heated; low maintenance; quick heating; can be mounted on ceiling, side wall or floor; no fuel storage required; no fumes of combustion; no ashes; etc.

General Electric Company, Schenectady, N. Y.

Boiler Improvements.

Improvements in the Brady Scotch boiler are of interest. It provides rapid, positive circulation, by dividing the water and steam space into two chambers, taking the place of one large shell. The water line is carried about one-third the distance above the bottom of the upper drum, leaving a deep steam space of ample volume. The furnaces and tubes fill entirely the lower shell, which is connected to the upper drum by large necks at the front and rear. The shell can be made of smaller diameter than the standard type, which allows for larger capacities in one unit. The rapid circulation of the boiler, it is stated, increases the economy and capacity, and prevents formation of scale. The positive rapid circulation is obtained by placing, just below the front neck, an annular ring or plate extending around the inside of the shell, with an opening at the bottom. This plate intercepts the opening through the front neck and compels the water coming from the upper drum to pass between the ring and outer shell of the bottom of the boiler. The water then flows upwards between the furnaces and around the tubes, rising as its temperature is increased. The steam takes the shortest path, through the rear neck to the top drum. Another feature is a cylindrical combustion chamber. The boiler is internally fired, no brickwork being necessary.

International Engineering Works, Inc., Framingham, Mass.

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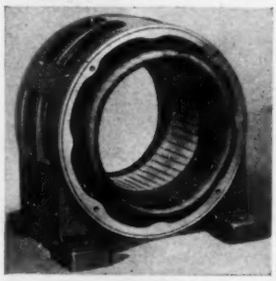
Self-Cleaning Textile Motor.

A self-cleaning textile motor has been introduced to the textile industry. This is a standard squirrel motor in every respect except that the stator is treated with a special protective coating, called "Resistallis", which, it is explained, resists the action or corrosive effect of acids, salt, water, oil, steam, and abrasive material. In addition to the resisting qualities and the increased insulating value, it is pointed out,



Treated with "Resistallis."

"Resistallis" provides a hard, smooth and polished surface to which lint, fly, etc., will not stick, so that standard open type motors may be used in textile mill work, with the effect of adequate ventilation for keeping the motor cool. The entire stator of the self-cleaning textile motor is finished with any bright orange color. No effort is made to keep out the lint, this being blown out through the wide open air passages by a blast of air from scientifically designed fans. The motor winding may be cleaned with a cloth moistened with gasoline. It is stated that "Resistallis" radiates heat rapidly, and that these motors operate at a temperature not to exceed 40 degrees Centigrade at full load. These motors are built in all sizes from one-half to 150 h. p., in all voltages, frequencies, and speeds; sleeve, ball, or waste packed bearings.

The Louis Allis Company, Milwaukee, Wisconsin.

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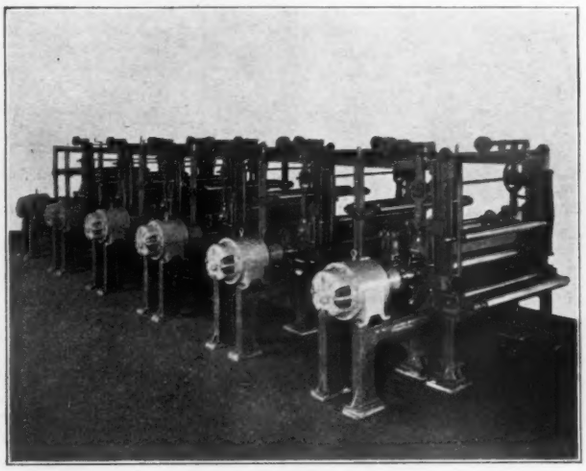
New Electric Motor Applications.

Application of the Crocker-Wheeler motor has been made to textile equipment. The illustration shows a six-motor synchronized range drive with tension control on a six-compartment,



Six-compartment all-purpose open soaper with synchronized motor drive.

all-purpose open soaper range. This company has also developed a speed changer to be built in with their motor, and among the successful textile applications is that of a knitting machine, which provides a flexible means for setting and adjusting speed on each machine to obtain best products and production. Drives are available for a. c. or d. c. current.

Crocker-Wheeler Electric Mfg. Company, Ampere, N. J.

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New Light Weight Texsteel Sheaves.

A new type of pressed steel Texrope sheave, to meet the demand for light weight drive, has been developed. These sheaves are die pressed from extreme-by tough steel, and each section is welded both at the web and at the rim to eliminate vibration and noise and to give an accurate balance. They are manufactured in a large range of diameters permitting ratios as high as 6 to 1. They are painted with aluminum paint for protection and appearance.

Allis-Chalmers Mfg. Company, Milwaukee, Wisconsin.

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Self-Cleaning Motors for Individual Frame Drive.

A self-cleaning motor for individual drive of roving, spinning and twister frames is of the open type (without screens) and with air passages designed to pass dry lint through the motor without having it collect inside. The windings have a covering of filler with a very smooth exterior surface to eliminate lint pockets. A unique feature is the use of a sealed sleeve bearing in a motor of this type. Every opening into the bearing housing is sealed to keep the oil in and the dirt out, for, even with air passages, if lubricants get on the windings and inside surfaces, the effect of the passage is wasted. With the sealed bearing, no oil is allowed to escape, it is pointed out. Ball bearings may be furnished which are equally effective in retaining the lubricant and excluding dirt, it is stated. Under the filler on the stator winding is a tape-wound impregnated winding, so that a hair crack in the paste covering does not allow moisture to creep in to the insulation. Each coil has a covering of cotton tape treated to exclude moisture.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Loom Motor Switch.

A new loom motor switch is a compact toggle operated unit providing a genuine thermal overload trip, eliminating fusible elements to be renewed each time the overload protection becomes effective. Permission was granted by fire insurance authorities to install a group of these switches under the protection of a single set of branch circuit fuses. With half horsepower motors, for example, the branch circuit and fuses may be 30 ampere capacity with a group of 15 or more motors and switches protected by the one set of fuses.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

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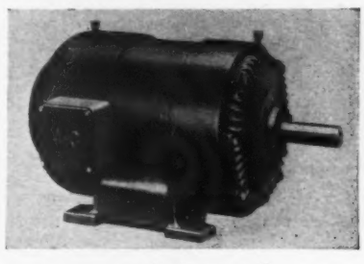
Explosion Proof Motor.

A new line of explosion proof motors, especially approved for use in hazardous atmospheres, has been developed. The construction of this motor is along the same general lines as Allis-Chalmers totally enclosed, fan-cooled mo-



—explosion-proof.

tor. Its special features include extra long bronze bearing seals to prevent the escapement of flame and to cool the gasses below the point of ignition, special alloy steel cap screws that fit

into tapped pockets, and unusual sturdiness to resist stresses due to possible minor internal explosion or flashes. In addition to the sealed motor leads, a special explosion-proof cast iron conduit box gives additional protection against possible contact with surrounding air, it is explained.

Allis-Chalmers Mfg. Company, Milwaukee, Wisconsin.

:: :: ::

Loom Motor.

In a recently developed loom motor, the following characteristics of design were emphasized: Unusual mechanical strength in all parts to withstand severe vibration; high efficiency and high power factor; liberal overload capacity for breaking in stiff new

—cut-away view of loom motor.

looms; and an easily maintained and lubricated waste-packed bearing for keeping oil out of the motor and off the windings. The stator structure is rigidly held by four still angles welded across the lamination end rings; this structure is clamped between heavy cast iron end rings by four bolts and the bearing brackets fit into these end rings. The filler plug above the bearing is readily accessible. The overflow drain is novel. If too much oil is put into the bearing, the excess drains into the overflow and is carried to the outside of the motor.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

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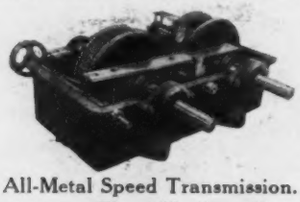
All-Metal Variable Speed Transmission.

An all-metal variable speed transmission is called the P. I. V. gear, the initials standing for "Positive Infinitely Variable." Basically, this new speed change unit consists of two pairs of wheels of the opposed conical disc type, between which a unique chain trans-



All-Metal Speed Transmission.

mits power. The effective diameters of each pair of wheels can be altered under load to change the speed ratio, without steps, and without dependence on friction. On changing speed, the self-pitching chain rises in one set of wheels and descends in the other, so that while the input shaft connected to a motor or other source of power turns at constant speed, the output shaft is brought to the desired speed. The original feature of the drive is its use of a positive chain drive to transmit the power. Radial teeth are cut in the conical faces of the driving discs and the self-adjusting teeth projecting beyond the sides of the chain are arranged to positively engage the radial teeth of the discs.

Link-Belt Company, 910 South Michigan Ave., Chicago, Ill.

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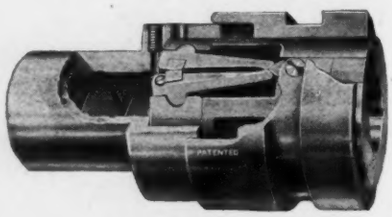
Improved Clutch.

Improvements in the manufacture of the Johnson clutch include the use of chrome nickel steel for the working parts, instead of tool steel and carbon drop forged steel. The expansion friction ring is re-inforced opposite the



Improved Clutch.

point of expansion. The adjustment has a locking device which holds the adjustment securely where set. In the new type the friction ring is faced O. D. with a special heat resisting material. This clutch is built especially for use on drives where high speeds, starting heavy loads, excessive slipping, and continuous engaging are required of the clutch.

The Carlyle Johnson Machine Co., Manchester, Conn.

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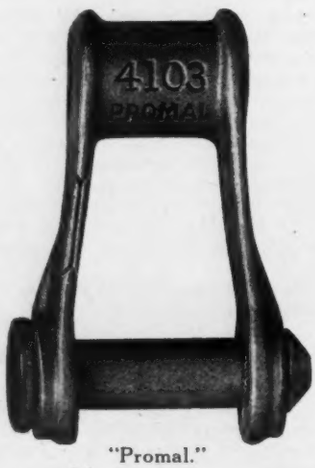
New Metal for Link-Belt Chains.

A new line of cast chains has been placed on the market under the name Promal. The manufacturers experimenting with cast chains started about



"Promal."

four years ago, they state, and led to the discovery of a new method for processing malleable iron, which so altered its physical characteristics as to make it a distinctly new metal. It is explained that, compared with malleable iron, Promal has an average yield point of 45,000 pounds against 36,000 pounds; an average ultimate strength of 65,000 pounds against 54,000 pounds; an average elongation of 14 per cent against 18 per cent; and a Brinell hardness of 170-190 against 110-130. These characteristics, it is pointed out, evolve into a cast chain with great toughness to resist extreme tension without permanent stretch, high strength in proportion to weight and size, and satisfactory hardness against abrasive wear.

Link-Belt Company, 910 South Michigan Ave., Chicago, Ill.

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Duck-and-Rubber Belt.

A belt of duck and rubber construction is so unified in construction that the plies cannot be separated except with a sharp tool, it is pointed out.

The new belt, known as Condor Textyl, is stretchless, and is produced for satisfactory service on all normal drives up to 5,000 feet per minute. One "take-up" only is required, it is pointed out.

Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

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A Cog-Belt V-Shaped Drive.

The heart of a new Cog-belt, V-shaped drive, from which it derives its name, is a series of tooth-shaped corrugations on the inner surface of the compression section. This surface is cogged to provide flexibility and to

Cog-belt for V-Drive.

prevent buckling when the belt is flexed around the pulley. In the fiber and rubber composition of the cogs, the fibers run cross-wise, for creating greater cross-sectional rigidity and to prevent distortion. The outer portion of the belt, consists of a series of convolute layers of a bias-cut fabric. Cut-

ting on the bias prevents raveling, and, since the belt is die-cut, the ends of the threads in these layers are exposed to the side of the pulley groove to form a part of the driving surface. The neutral or center section consists of a series of convolute layers of pre-stretched parallel cord cable fabric. In manufacturing the belt, the cords are stretched with tremendous tension and permanently set in this position by vulcanization. The neutral section has the edges of the specially treated cord cables as the riding surface. Thus, it is pointed out, the riding surface of the belt is a continuation of ends of threads in the fabric on the bias, edges of cord cables and ends of fibers in the teeth.

The Dayton Rubber Manufacturing Co., Dayton, Ohio.

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New Motor Lubricant.

A new grease for ball and roller bearing motors is offered as embodying the necessary qualities for the purpose. It is being used on ball bearing application with speeds as high as 25,000 r. p. m. and temperature exposures from -25 to 250 degrees F.; but is recommended only for the lubrication of motor bearings where the motors were originally grease lubricated. The lubricant is supplied in two-ounce tubes and one-pound cans. A tabulation on the instruction sheet accompanying the tube denotes the amount of grease used in the various motors by frame sizes. The tube is calibrated into one-half ounces and the cover of the one pound can holds two ounces, to assist in measuring the amount to be used without weighing.

General Electric Company, Schenectady, N. Y.

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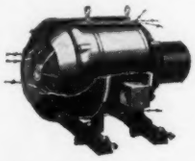
Totally Enclosed and Fan-Cooled Motor.

A totally enclosed, fan-cooled motor has been designed especially for duty on locations where dust, moisture, lint, acids and other foreign materials prevail. This type of construction utilizes a standard polyphase or single phase



Red Band motor, built in a totally enclosed frame. Around this frame is a metal shell with a fan mounted on the shaft on the motor opposite the pulley end. The shell is open at this point, this incasement allowing sufficient room around the motor and sufficient openings to permit the fan to expel warm air and draw cooling air blasts over the surface of the motor. These air blasts do not come in contact with the windings or operating parts. On the interior of the motor are fans mounted on each end of the rotor which aid in the radiation of heat. In the case of smaller motors, the shell is not used, in that the fans on the end of the rotor are sufficient to take care of heat generating and keep the motor operating at the correct temperature. There are no vent pipes or breathers in this construction. Because of the large dimensions of the louvres, the space under the shell and its smooth construction, foreign materials cannot accumulate or clog the air chambers, it is stated. The motor is built only with anti-friction bearings.

Howell Electric Motors Co., Howell, Michigan.

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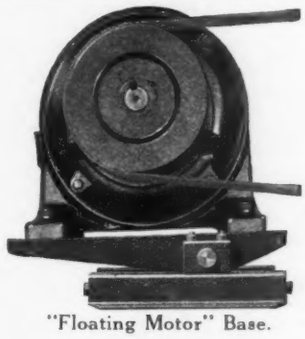
Floating Motor Drive Base.

A floating motor drive base "utilizes the motor torque to regulate belt tension" automatically. It replaces the usual motor rails, and the drive operates from the motor torque—the elec-



"Floating Motor" Base.

trical or torque reaction between the motor armature and rotor revolving the frame about the pivot shaft in a direction opposite to that of the belt, directed to increase the belt centers, and automatically compensating for the increase in belt length during operation without the use of gravity idlers or tighteners.

The Kritzer Company, 515 West 35th St., Chicago, Ill.

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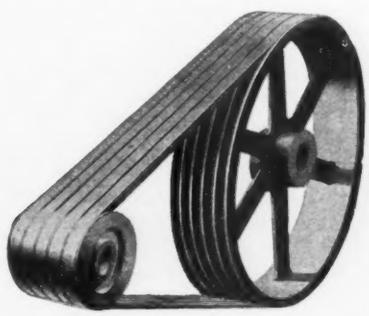
Multi-V-Drive.

The Multi-V-Drive consists of a number of endless moulded V-belts running in V-grooved sheaves. The V-belt is rubberized cord, developed in conjunction with the Goodyear Tire & Rubber Co. The load-carrying members of high grade cotton cards arranged in parallel lines and concentrated about the neutral axis. Each belt of the drive, it



Multi-V-Drive.

is pointed out, takes an equal share of the transmitted load. Each sheave is carefully grooved, machined and finished. The wedging action between the belts and the grooves results in a slipless, powerful grip, which compensates for, but differs from initial belt tension in a flat belt drive, it is explained. The manufacturers state that, "the smooth grooved construction of this drive, together with the fact that there is an exact mathematical relationship between the grooves and the molded shape of the V-belt, results in an effective conformity of belt sheave which assures maximum power transmission efficiency. The combination gives a positive grip, without binding or backlash, which actually transmits about 99 per cent of the applied power at high speed ratios, over short centers without idlers."

Worthington Pump and Machinery Corporation, Harrison Works, Harrison, N. J.

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Compound and Chain Drive.

For the elimination of backlash, jerk and vibration, and the production of evener and smoother roving, a special compound for roving frames was designed, the Stewart compound, in conjunction with a Whitney chain drive. It is explained that every movable part in the compound runs in the same direction to result in a decrease of the load on the cone belt; and that in this device from 20 to 30 points of friction are eliminated. The compound runs in a bath of oil, with one central oiling point which is to be filled with a pint of oil and drained and refilled every three months.

Precision Gear & Machine Co., Inc., Gastonia, N. C.

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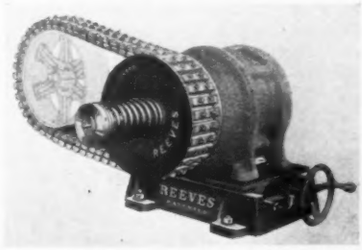
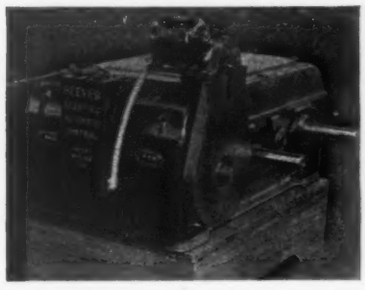
Improvements in Variable Speed Control.

A development in power transmission under variable speed control is represented in a new automatic control used for the purpose of synchronizing two or more machines in continuous processing or in yarn or piece goods fin-



Vari-speed Motor Pulley.

ishing. It is pointed out that the control may be operated by a compensator, follower roll or pressure roll, requiring only a few ounces of pressure or weight on the goods to operate, and



Enclosed design—automatic control.

to synchronize the machine. The control has been applied to range finishing lines and also to winders on which it is operated by a special synchronizing differential unit to maintain a uniform surface speed or uniform tension and yardage per minute at all diam-

eters of the roll being wound. Another important development is a new type of variable speed motor pulley drive adaptable for spinning frames and twisters. This is mounted on the motor shaft and drives the drum shaft of the frame. By turning a handwheel the speed may be set for any count of yarn, it is pointed out; and it may be also equipped with automatic control for cone bobbins, etc.

Reeves Pulley Co., Columbus, Indiana.

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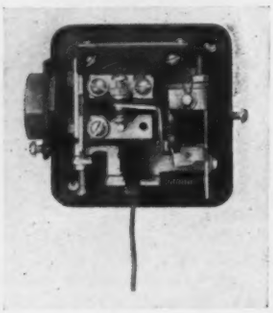
Thermostat for Industrial Heating.

A thermostat for industrial heating units where very close control of the heat is available in three principal ratings, and the operating ranges are: 60 to 200 degrees F.; 150 to 300 degrees F.; and 250 to 400 degrees F. The current-carrying capacity is 15 amperes at 115 or 230 volt alternating



Industrial Thermostat.

current, or ¼ ampere at the same voltages direct current. The thermostat operates with a differential of five per cent of the maximum temperature range.

The unit is mounted on a pressed-steel base which has two mounting holes and an upturned ear with an opening for a ¾-inch conduit. A drawn-shell cover, held in place by two screws, completes the enclosure of the switch. All steel parts are cadmium-plated.

General Electric Company, Schenectady, N. Y.

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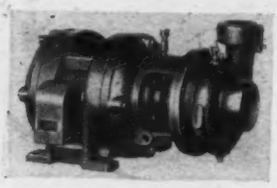
Centrifugal Pumping Units.

An extension to cover three sizes in the "SSU" centrifugal pumping units of single-shaft, two-bearing design, which includes ratings from 30 to 500 g. p. m. for heads under 100 feet, has been announced. The use of totally enclosed fan motors, if necessary, and



Centrifugal Pumping Unit.

total enclosure of motor housings on the pump end of these units, is adopted. Among the applications pointed out for these pumps are: water supply; circulation of water, oil or brine for heating or cooling systems; for transfer of many liquids; air conditioning; auxiliary service to power equipment for cooling water seals, etc.; etc. etc.

Allis-Chalmers Mfg. Company, Milwaukee, Wisconsin.

Ball Bearing Rotary Stem Stuffing Box.

In a line of liquid level controls and rotary stem lever valves, a ball bearing rotary stem stuffing box has been brought out, with an auxiliary pilot operated regulator, operated by a micrometer cam movement which gives sensitive control and accurate maintenance of the level, it is announced. The stuffing box has several distinct features. The ball-bearings are both radial and thrust—that is, the ball race is a combination design. Friction which might be developed by the unbalanced area of the stem being acted upon by the pressure inside the valve or float cage is relieved by the end-thrust bearing effect, and it is pointed out that this stuffing box will rotate with the same inch pounds of force on 0 pounds pressure in the body that it will when there is 300 pounds pressure in the body.

The Fisher Governor Co., Marshalltown, Iowa.

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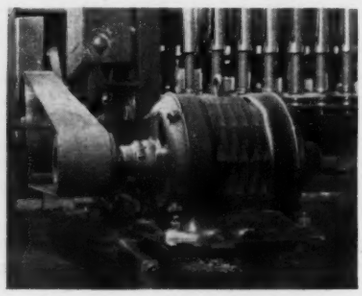
Pivoted Drive for Short Centers.

By mounting the motor on a pivoted base, so that the weight of the motor automatically maintains a prescribed uniform tension in a flat leather belt operating over two paper pulleys, a new short center drive has been designed. The standard drive has an over-



Pivoted Drive on Twister.

load capacity of 150 to 200 per cent of motor rating, it is pointed out. According to Cornell University tests, the belt slip is less than one per cent. For such drives as spinning frames and twisters, it is pointed out, the driven pulley is maintained at a more uniform speed, and the power flow is smoother, bringing about increase in production and quality. Six sizes of bases fit and handle all types of motors from 1 to 50 h. p., 1800 r. p. m.

The Rockwood Mfg. Co., Indianapolis, Ind.

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Plug Cock Valve.

A valve of the plug cock type, with interesting lubricating and lifting features, is applicable to bleaching and dyeing equipment. The valve uses lubricant under pressure to release the plug against the compression of the flexible packing. At the same time the lubricant forms a seal of a highly viscous nature between the contact surfaces of the plug and its seat. When fully open, it is pointed out, no part of the ground seat is exposed to the line fluid. A patented method of lubrication provides for the lifting of the plug in any position by lubricant pressure, and the positive distribution of the lubricant in two unbroken rings around both ports of the valve when in the shut-off position.

Merco Nordstrom Valve Co., 343 Sansome St., San Francisco, Cal.

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Shallow Type Dead Front Power Panel.

A new shallow type dead front power panel, known as Saflex Junior, is rated from 30, 60, and 100 ampere, 125-250 volts, and is mounted in cabinets only 6 inches deep. These cabinets are available for either flush or surface mountings and this line augments the Saflex power panel line which has capacities ranging from 30 to 600 amperes, 250 or 575 volts. Combination panels, including standard bakelite lighting panel sections may be built up. This new panel has switch action, inasmuch as the switch blades are mounted on the door, which is hinged, and a swivel blade holder which permits locking the circuit on or off.

Square D Company, Detroit, Michigan.

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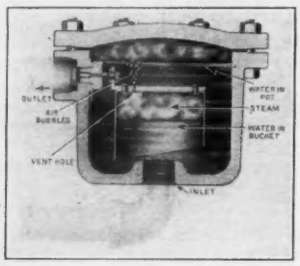
New Trap.

A new inverted open float steam trap has been developed. It is pointed out that it will successfully remove the condensate and air from heating



coils, driers, and various steam consuming units found in the general textile plant in dyeing, bleaching and finishing plants, without wasting steam.

Crane Company, 936 South Michigan Avenue, Chicago, Ill.

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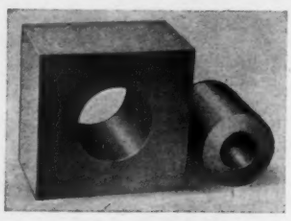
Oilless Bearings and Oilless Bearing Material.

A new oilless bearing material, known as Parock, is a highly refined rubber bonded graphite compound for use on slow-speed, low-pressure machine installations where lubrication is diffi-



"Parock."

cult; also as a submerged bearing in any solution which does not injure rubber. It is stated that this material machines like soft brass and can be obtained in finished or unfinished block form up to 36 inches O. D. When running as a dry oilless bearing, the coefficient of friction is .1 to .13 and .05 to .08 submerged or wet. Other characteristics are given as follows: Running clearances, .003 to .005; allowable

bearing pressure per square inch, 40 pounds dry, 100 pounds submerged or wet (liquids harmful to rubber excepted); allowable shaft speeds, 300 f. p. m. surface speed; deformation under load, .0007 at 1,000 pounds per square inch; no oil absorption; 80 per cent graphite; weight, 1 ounce per cubic inch; approximately .001 heat conductivity; thickness of bearing under ¾-inch, I. D., ⅛-inch; over this, ¼-inch; coefficient of expansion, 00132; allowable temperature of surrounding atmosphere and bearing itself, 250 degrees F maximum.

Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

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New Bearing Designs.

Several new types of bearings have been adapted to textile machinery use. One is shown at Fig. 1 herewith, and is a double row, self-aligning ball bearing fitted with an extruded bronze re-

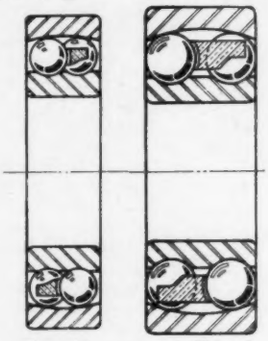

Fig. 1. Fig. 2.

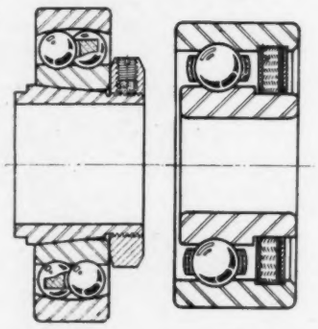

Fig. 3. Fig. 4.

tainer machined throughout. By the special design of this retainer, it is explained, it is possible to include several more balls in this style of bearing. Fig. 2 is a wide type double row self-aligning bearing designed for use where there is a certain amount of end thrust load to be carried. The two rows of balls are well separated so that the load contact line is at an angle with the outer raceway, it is pointed out. Fig. 3 is a double row self-aligning bearing with adapter sleeve and lock nut, suitable where it is undesirable to machine shoulders and threads on the shaft for properly clamping the inner ring of the bearing. Fig. 4 is a new GreaSeal felt protected bearing, designed to eliminate supplementary protective devices for the bearing on one side, and the seal portion of the bearing consists of compact felt held rigidly between pressed metal plates which are expanded into a groove into the outer ring of the bearing. Particular attention is called to the fact that the bearing has a wide outer ring in contact with the housing so that the bearing can be used with aluminum or other soft metals without the use of steel inserts to prevent peening.

Norma-Hoffman Bearings Corp., Stamford, Conn.

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Device Uses Light to Control Machinery.

The interruption of a beam of light controls the operation of industrial machinery in a new device, the photo-electric relay. The new relay is es-

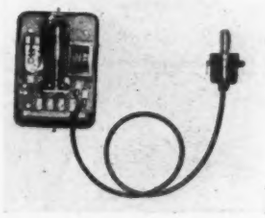

Photo-Electric Relay.

sentially a vacuum tube device, and uses both the photoelectric tube and the pliotron. Such a device would be useful in counting items, sorting packages according to size, shape or reflecting power, stopping machines in case of fire, when smoke or flame would interrupt the light beam, etc.

General Electric Company, Schenectady, N. Y.

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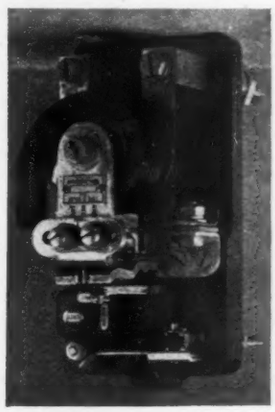
Overload Relay.

In many textile finishing operations it is customary to use direct current adjustable speed motors. To protect these motors and circuits it has been necessary to use the customary type thermal relays for increasing the time



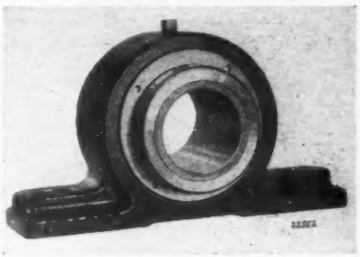
Thermal Over-load Relay.

limit overload protection in addition to fuses or some other type of short circuit protection. A new type of relay is designed to combine these functions in one easily adjusted device. On moderate, sustained overload this relay acts as any other thermal overload relay. The relay trips in a length of time inversely proportional to the amount of the overload. On severe overload or short circuit the action of the relay is entirely changed and it trips instantaneously without waiting for a thermal element to become heated.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Self-Aligning Roller Bearing Units.

A new line of self-aligning roller bearing units for normal duty application has recently been announced. The normal duty units, in lighter weight, compact, simpler housings, are furnished as pillow blocks, flange units, and take-up units, in a full range of shaft



Self-Aligning Unit.

sizes from ¾ inch to 3-inch. The inner race of the bearing is extended on one end only and fastened to the shaft by a special locking collar. Sealing is accomplished by a grease seal consisting of two steel stampings pressed into the housing or cover. Between these stampings is a 3/32 fiber washer which is a slip fit on the extended cone. These new stock units are self-aligning.

Shafer Bearing Corporation, 6501 West Grand Ave., Chicago, Ill.

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Magnetic Reversing Switch for Larger Motors.

A new, enclosed, magnetic reversing switch is designed to control motors of greater horsepower than those controlled by the superseded type. The new device is designed to throw small alternating-current motors directly across the line. It consists of two triple-pole, mechanically interlocked, magnetically operated contactors with restricted-type blowouts, with a normally-open interlock on each contactor. It also has two hand-reset temperature overload relays. The contactors are mounted side by side on a moulded base, instead of back to back.

General Electric Company, Schenectady, N. Y.

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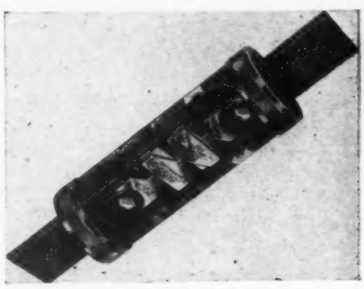
Long Time Lag Fuse.

A fuse with a scientifically designed arrangement for a sufficiently long time lag to withstand harmless overloads, has been brought out. Two lag plates are attached to the center of



"Super-Lag" Fuse.

the fuse link. An extra reduced section is provided in the center so that these lag plates do not increase carrying capacity of the link too much, it is pointed out, and as a result the lag plates serve only to conduct away and

temporarily store some of the heat generated in the weak spots, so that it takes a longer time to get the weak spots sufficiently heated to blow.

Bussmann Mfg. Company, University at Jefferson, St. Louis, Mo.

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Self-Lubricating Bronze Bushing.

Nearly half of the bearing surface of a new bronze cast self-lubricating bushing is graphite impregnated. This result is accomplished by cutting dovetailed grooves of approximately 1/32-inch in width into the bearing surface longitudinally on an angle of seven degrees. Spacing these slots closely, it is explained, obtains a mechanical structure almost exactly similar to an alloyed granular structure of a composition of a hard and plastic bearing metal, in which a close and uniform distribution of such metals is desirable. The rolled sheet metal bushing is also graphite lined, substantially. Grooves are cut into strip metal, and by forming the metal into cylindrical shape, the grooves automatically form a dovetail, which holds the lubricating compound in place.

Johnson Bronze Co., New Castle, Pa.

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Combination Linestarters.

A combination linestarter, designed to make a compact convenient unit including both disconnecting switch and linestarter, is particularly adapted to individual motors on roving, spinning and twister frames. The combination includes a compact guide break disconnecting switch giving double break in each line, the compactness allowing

Combination Line Starter.

the use of a small cabinet for the combination. Fuses and test jacks are added without increasing the size of the cabinet. The switch handle is interlocked with the cover so that fuses may be renewed or the unit inspected without danger.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

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Variable Speed Electric Drive Unit.

A compact variable speed drive unit has been developed recently, as an adaptation of the JFS variable speed reducer combined with an electric motor in a single housing which can be mounted in any position with four base bolts. The drive is self-contained and ready to couple to feeders, assembly conveyors, etc. In combining motor, speed changer and control in one unit, the motor shaft is extended and becomes a part of the high speed transmission assembly. All moving parts are enclosed and the all metal speed changing mechanism operates in oil. The output speed is regulated by means of a convenient hand wheel by which the speed may be increased or decreased without stopping the machine.

Stephens-Adamson Mfg. Co., Aurora, Illinois.

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New Type Switch.

In a new Type A switch the positive pressure fuse clips are made of copper for high conductivity, reinforced by steel springs for insuring perfect contact, and long contact life. The interlock has been simplified with less operating parts, and is made more compact. The interlock provides for locking the switch so that the door cannot be opened while the switch is on, and the switch cannot be operated when the door is off, except by an authorized person. All switches of 100 amperes or below are equipped with slotted hexagon nuts. The switch is unit base construction, and has high rupturing capacity and high speed break, it is pointed out.

Square D Company, Detroit, Michigan.

General Factory and Shop Equipment

Improvements in Lubricants.

Refinements designed to make Non-Fluid oil more effective, have been made, according to the manufacturers; the new products providing driplessness wasteless lubrication, with the elimination of spoilage and loss due to oil stains on goods. It is pointed out that these lubricants stay in the bearings, and do not drip and leak.

New York & New Jersey Lubricant Co., New York City.

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Sheet Metal Repair Service.

A service for building and repairing sheet metal equipment used in and around textile plants was organized about a year ago in Gastonia. The plant builds and repairs spinning, twister and quiller cylinders, and repairs all makes of card and picker screens, drying cans, slashers and many other pieces of equipment made of sheet metal. This service, it is pointed out, eliminates the necessity for long waiting periods, shut-downs, etc., in case of a breakdown, while waiting for repairs.

Gastonia Textile Sheet Metal Works, Gastonia, N. C.

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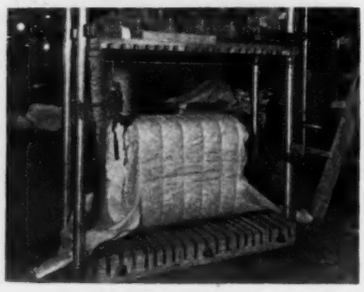
Using Wire for Tying Textile Bales.

The result of tests to utilize wire tying in the baling of textile goods are interesting. The outcome of tests resulted in the development of special wire tying equipment for the purpose,



Baling with Wire.

under hydraulic pressure. A small hand operated tying machine is mounted to the press, and after the bale is fully compressed, the required number of wire ties, cut to the desired length, are passed around the bale and sealed together with the tying machine, which also takes up the slack and tensions the wire before sealing it. It is explained that the tying operation is simple, and that six ties can be tensioned and sealed by one man in less than three minutes. As to the effect of the wire on the package, it is explained that a galvanized, rust-proof round wire, which does not cut the covering or goods, is used.

The Gerrard Company, 2917 West 47th St., Chicago, Ill.

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New Factory Chair.

The base of a new factory chair is made of 1-inch tubular steel legs which are permanently braced by a continuous 1-inch steel angle, electrically welded to the legs. The seat and back are made of 5-ply veneer. The latter is swivelled to give an automatic fit to the "small of the back" for supporting

Industrial Chair.

the workers' spine. It is pointed out that the chair is scientifically designed to hold the body comfortably erect and to eliminate body pressure at sensitive points; permitting internal organs to function normally.

Another new development in posture seating is the use of Form-Flex seats and backs as a part of the chair itself,

for providing resilient, non-shining material designed to fit the form and eliminate pressure into the underside of the legs, etc.

Do/More Chair Co., Elkhart, Indiana.

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Heavier Tramrail Equipment.

A new type of Tramrail equipment, with heavier capacities, was recently announced. This new equipment is commonly called the five-ton system. By suitable arrangement of carriers, cranes, and trucks, etc., loads of ten tons will be handled expeditiously. The five-ton Tramrail is based on a rail section having the raised tread, designed and rolled especially for the purpose; the special rail section is then electrically welded to a half section of Bethehem I-beam, the whole beam having been halved by punch press lengthwise through the web—the completed rail forming a patented design known as Arch Beam.

The Tramrail principle of flexible rail suspension, long wheel base carriers with swivel yokes and double row ball bearing wheels, underslung type cranes with swivel end trucks and other details and principles are used in this addition to Tramrail equipment.

Cleveland Electric Tramrail Division, of the Cleveland Crane & Engineering Co., Wickliffe, Ohio.

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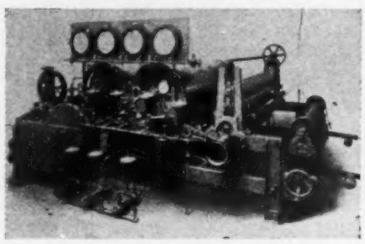
Automatic Control of Temperature.

In a line of equipment for automatically controlling temperature in the slashing operation, direct setting is accomplished by turning an adjusting



"Tag" on Johnson Slasher.

knob. A small air relay controlled by a unique weighted flapper opens and closes the steam valve. Flexible rubber gaskets cover the pressure arrangement, and a glass retaining ring is used to make the recording case moisture-, fume- and dust-proof.

C. J. Tagliabue Co., Brooklyn, N. Y.

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Combined Time Recorder and Counter.

A combined time recorder and counter has been developed for use on printing and other variable-speed machines. It is a combination of an automatic counter and time-recording device. The time-recording device is of the well-known clock-driven waxed-chart type, the record being made on the waxed chart by means of a stylus actuated by the counter. The counter can be arranged to record in any desired unit, it is explained, this in the finishing mill usually being yards, the stylus recording on the chart the time in which the production took place. It is explained that the instrument gives definite control of production and speed on variable-speed machine, making it impossible for an operator to speed up a machine to gain lost production, thereby affecting the quality, since the record shows definitely the period of operation as well as the quantity.

Veeder-Root, Inc., Hartford, Conn.

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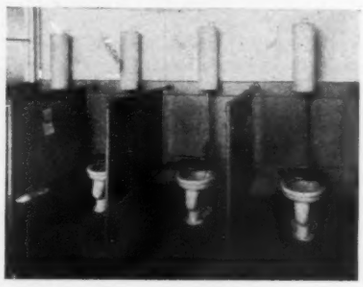
Test on Water Closet.

Over two years ago, on July 16, 1929, a stock No. Ten water closet was put on test, which was to continue until the closet refused to operate. To date, the interesting report is that, after



338,341 flushing operations, the closet is still in original condition, except for the replacement of one washer which was made after the 325,000th flushing. It is estimated that 250,000 gallons of water have been used in this test.

Joseph A. Vogel Company, Wilmington, Del.

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Adjustable Chairs and Stools.

A line of automatic adjustable steel stools and chairs has been designed for industrial and office use. The connections are electrically welded, for sturdy construction, and an exclusive

feature is a full ten-inch adjustment at any fraction of an inch, permitting correct and comfortable seating for each individual.

Vitek Manufacturing Co., Omaha, Nebr.

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Power Hack Saw Machine.

Recent improvements have been announced in the No. 18 Kwik-Kut power hack saw machine, which has a patented variable stroke feature. On this machine, stocked capacity is 8x8 inches with a solid vise, and it can be fitted with a swivel vise for cutting any angle up to 45 degrees on stock 4½x8 inches. On a 90 degree cut the capacity is 7x8 inches. When the stock has been clamped in the vise, it automatically controls the blade stroke so that on this machine over three-fourths of the blade is used at all times. Another feature is the automatic stop. When the blade has completed the cut through the stock, it immediately stops. A most recent addition to the machine is the three-speed gear box which means that the machine can be operated at different speeds to accommodate cutting high speed steel, soft steel, etc. The recommended speeds are 48, 68, and 80 strokes per minute.

E. C. Atkins & Company, Sheffield Saw Works, Indianapolis, Ind.

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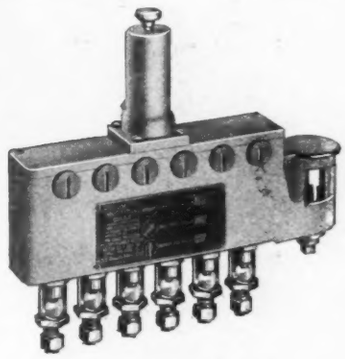
Automatic Multiple Oiler.

An automatic multiple oiler, by which a number of bearings may be lubricated regularly and automatically through the use of tubes from the oiler to the bearings, is available pneumatically, mechanically or electric solenoid operated. They may also be operated by



Automatic Multiple Oiler.

hand. When the oiler operates, the oil cups raise out of an oil well to a fixed position, delivering oil to the openings and thence to the bearings. Any schedule of lubrication—every 15 minutes, every three hours, etc.—may be carried out by adjustment of the mechanisms.

Gits Bros. Mfg. Co., 1846 So. Kilbourn Ave., Chicago, Ill.

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Propeller Ventilators.

A complete line of ventilating equipment—portable ventilators, exhaust and pressure fans—has been brought out under the trade name of "Paragon". The Paragon propeller fan is

built the same as regular airplane propellers. The core is of selected white birch laminations, matched, balanced, and tracked to eliminate vibrations. The core is completely encased in heavy gauge Monel metal, and is hermetically sealed as protection from dampness, acid fumes, steam or excessive heat. Hubs are bored to fit snugly on the motor shaft—flange plates

bolted firmly to both sides of the propeller. These propellers are not cast or stamped, but each is a hand-made job.

The American Propeller Company, Division Bendix Aviation Corp., South Bend Indiana.

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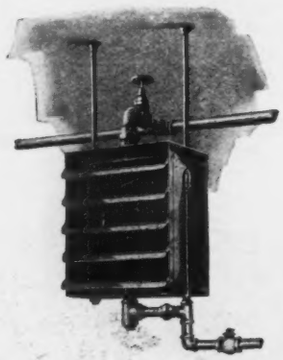
Venturafin Method of Heating.

The Venturafin method of heating is an interesting addition to steam heating systems. In this method, it is explained, each unit consists of a specially designed light weight low resistance radiator, or heating element, the fan and motor for forcing air through



the heating element, adjustable deflectors directs the warm air into the working zones, and a casing to hold the complete assembly together and make a neat appearing unit. Heating is accomplished by forced circulation of warm air throughout the room. No duct work is required. Units can be installed to handle any desired proportion of outside air when ventilation without drafts or cold spots is required, it is pointed out. The units offer no interference with lighting, and the heating effect of the unit can be started, stopped or regulated instantly by switch. Control may be made automatic entirely by connecting electric thermostats in the motor circuits.

American Blower Corporation, 6000 Russell Street, Detroit, Mich.

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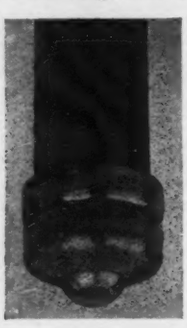
New Ball Transfer Handling Equipment.

A new type of handling equipment is designed to accommodate the movement of objects, having smooth hard surfaces, in any direction on a horizontal plane. This device is made up with a large hardened steel ball which rotates on a series of smaller balls held in a cupped base. A dust and dirt cap rests on the ball, being held in position by a spring retainer. Its knife edge contact with the large ball deflects foreign substances. There are two models, one for mounting in series on a table of flat surface support, the other for mounting on pipe supports. It is stated that "when mounted in groups on a heavy structural support, these transfers provide an effective means of moving heavy shapes to and from shears, for conveying boxes to and from a line of roller or power conveyor, etc. The ball table serves as a turntable for rotating heavy work in machining operations, etc." One model has a 4-inch diameter round base, with four holes for mounting; another a 3-inch square base with four mounting holes; a third a threaded coupling base for 2-inch standard pipe. These have a load rating of 200 pounds each, and are equipped with a 1½-inch diameter hardened steel ball supported on 105 3/16-inch hardened steel balls carried in a hardened steel base. Another type is of heavier proportions throughout, with a load rating of 500 pounds each.



Mathews Conveyor Company, Ellwood City, Pa.

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Automatic Scale for Weighing Coal.

An automatic scale for weighing coal, applicable to the textile industry, has been developed. This is used for checking the amount of coal used by each boiler, in order to determine the efficiency at which each boiler is operated, and to detect any extravagant use of fuel.

Richardson Scale Company, Clifton, N. J.

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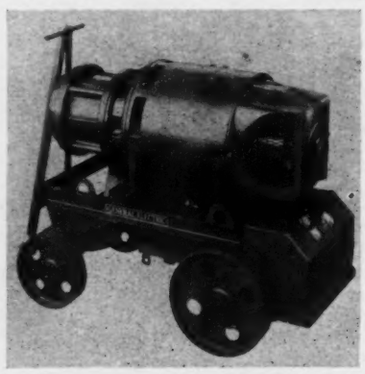
New Welding Sets.

A new line of single-operator welding sets incorporates many design improvements. The line includes both portable and stationary sets, the basic form being stationary with but a slight change needed to make it portable. Ratings of 100, 200, 300, 400 and 600-ampere are



included, as well as for alternating and direct current at all standard voltages; in the case of alternating current, standard frequencies and two- and three-phase gasoline-engine-driven sets are available.

A typical a-c. set consists of a generator with an overhung driving motor mounted on a simple base to which is attached a strong sheet-metal control cabinet enclosing the generator control devices, meters and motor starting equipment. A specially-designed transformer-reactor is mounted in the base under the generator. Base supports are arranged to be bolted to the floor or to have axles and wheels attached. The whole assembly occupies a minimum of space, a typical 300-ampere, a-c. set standing 36 inches high and 50 inches long by 23 inches wide. The weight of such a set is 1,865 pounds.

General Electric Company, Schenectady, N. Y.

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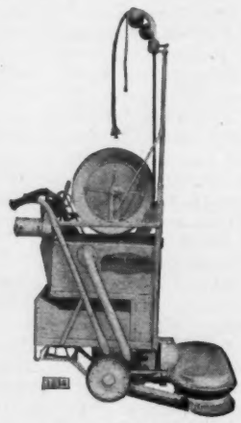
New Model Floor Cleaning Machine.

A new model of floor cleaning machine was recently announced. It is a combination scrubber and water absorber. High speed scrubbing brushes rout out the dirt, and before dirt can



settle, a powerful vacuum draws up the water, leaving the floor clean and dry. It is pointed out that this machine, requiring the services of one operator, combines speed with efficiency. Mill tests indicate the ability of one man to scrub and dry 46,720 square feet of wood floors in 19½ hours; and in another mill a complete coverage of 86,000 square feet of floor space is made once a week.

Finnell System, Incorporated, Elkhart, Indiana.

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Twin Disc Floor Scrubbing Machine.

A twin disc floor scrubbing machine, the Junior Giant, has been developed for large aisles and open floor spaces. The machine has a capacity on open floor areas of 6,000 to 8,000 square feet per hour, it is stated. The scrubber is made with two revolving discs or brushes, each of which is 11 inches in diameter, giving a total overall

brush span of 22 inches. A tank is supplied for water, the flow of which is regulated by the operator as the machine works across the floor. An automatic self-winding and releasing reel is furnished to keep the electric extension cable from dragging on the floor or over machines. An aisle model has an overall span of 11 inches.

Lincoln-Schlueter Floor-Machinery Co., Inc., 213 West Grand Avenue, Chicago, Ill.

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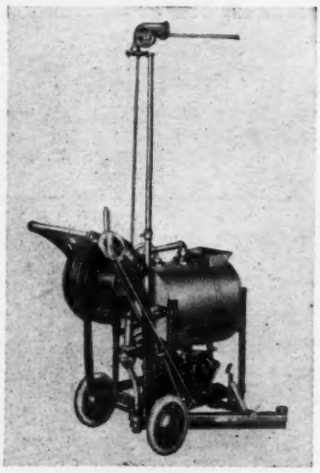
Vacuum Water Absorber.

A vacuum water absorber is designed to take care of removing the dirty water from the floor after the scrubbing operation. It removes dirty substance and rinses the floor by use of a double squeegee to make it unnecessary to mop



the floor afterward; mopping only in corners and mop boards being necessary. With the double squeegee, the first rubber removes the dirty water and the second with rinse water in between cleans and dries the floor. The machine is equipped with an ordinary take-up reel with 125 feet of wire for operation from the light socket.

S. C. Lawlor Co., 122 North Curtis St., Chicago, Ill.

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Specialized Textile Paints.

After a thorough technical study of ways and means of protecting the investments in textile mill properties—plants and villages—involving geographical location, type of construction, special operating conditions, etc., types of pigments and liquids especially fitted to the conditions were selected in the production of the Save-Lite line of finishes for textile mills. The company explains that these products "were designed not only from the standpoint of dependability and protection to the surface covered but also to relieve eye strain, etc." The line embodies the Enamel, Gloss, Eg-Shel and Flat finishes, designed to provide for any usual conditions and for the greatest possible diffusion of light. The Whites are fume-resisting and moisture-resisting, it is pointed out. A finish for retarding mildew growth in weave rooms is included. For village maintenance, Mill Village Paint was specially designed. Velvet Enamel is an interior finish which, it is pointed out is easy to apply and lends itself to decorative features. There is another line of metal protective paints, Kromik steel primer and S-W Metalastic metal finish for use over the primer. These products are stocked in the various warehouses in conjunction with a technical department service.

The Sherwin-Williams Co., Cleveland, Ohio.

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Spray Painting.

A one-man spray painting outfit of sufficient size to assure satisfactory production in continuous operation has been announced. The unit is mounted on a four-wheeled, hand drawn truck, and is driven by a 2 hp. motor. The outfit includes 1 spray gun with ad-

justable spray, head and wrench, 1 50-foot length, 7/16-inch air hose and connections, 1 25-foot length, 5/16-inch air hose and connection, 1 25-foot length, ½-inch DeVilbiss fluid hose and connections, 1 fluid cut-off valve, 1 air adjusting valve, 1 five-gallon paint tank complete with insert container, 1 electric motor driven compressing equipment mounted on a hand drawn rubber tired truck.

DeVilbiss Co., Toledo, Ohio.

:: :: ::

Quick Drying Paints.

Modern-day demand for speed has resulted in the production of quick drying paints, enamels and stains. Among those developed are 4-Hour Enamel, 4-Hour Varnish stain, In-Ex Quick Drying Enamel for use on all surfaces, More-lite mill white, especially for interiors and greater diffusion of light.

Leland Moore Paint & Oil Co., Charleston, S. C.

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New Paint Products.

A washable finish, Durawall, may be scrubbed without injury to the paint film, it is stated; ink and grease spots, etc., being removable with ordinary soap and water. It is in two parts, body and reducer, to be mixed on the job with no aging or sizing. It is flowed on.

Floor-life, is intended to produce a lustrous, elastic, tough and durable treading surface on floors, tile and linoleum and cement and concrete floor surfaces; to withstand light trucking and scraping of feet.

John Lucas & Co., Inc., 322 Race St., Philadelphia, Pa.

:: :: ::

Automatic Airpainting Unit.

A new machine for automatic air coloring and air decorating, is designed to be convertible for use with material of any texture or fabric. In the machine, automatic air brushes are mounted on universal sliding and revolving arm mountings, with hand or foot control. The air guns will cover 30 to 40 inch wide sheets at slow or fast speed up to 80 lineal feet per minute. Three independent air regulators control air pressure for each air brush to insure correct setting and timing of spray, for providing uniform matching and speed from each gun. A fireproof ventilating unit, with duct and collectors, removes mist.

Paasche Airbrush Company 1909 Diversey Parkway, Chicago, Ill.

:: :: ::

New Fiber Board Insulation Material.

Temlok is a new solid-inch fiber board group insulation, designed as a barrier to the passage of heat and cold, in the protection of buildings. It is explained that this material has a low moisture absorption, is convenient to handle, is easily sawed, and may be readily applied to any type of roof deck. A solid inch of the insulation is recommended, though the material is available in half-inch thickness, to meet specifications which require layers of half-inch fiber board insulation or laminated thicknesses. The conductivity of this insulation, it is stated, is .32 B. t. u. per square foot, per inch thickness, per degree F. temperature difference, per hour, at 60 degrees mean temperature.

Armstrong Cork & Insulation Company, Lancaster, Pa.

:: :: ::

Set Screws, Cap Screws, Etc.

Set-screws, cap screws and pipe plugs, made of chrome nickel alloy steel held to a five-point carbon range, have been developed. Each diameter of screw is given its own special treatment for developing stretch and fatigue resisting qualities; all screws are milled from the solid bar. The hexagon holes are cold-drawn, which method allows the use of the entire length for solid metal at the base or depth of socket, uniform accuracy of sockets, etc. The threads are die-cut. The cap screws are similarly made, the heads turned concentric with the body. These products are available in either steel, bronze, duralumin, or aluminum, and can be Parkerized, Sherardized or electro-galvanized.

Holo-Krome Screw Corporation, Hartford, Conn.

:: :: ::

New Type of Welders' Goggles.

A new type of welders' goggles embodies improved features. The goggles are adjustable to conform to the individual nose. The edge of the cup coming in contact with the face is shaped to conform to the general contour of the cheekbone and nose, for

fitting smoothly around the eyes. The eye-pieces are joined with a leather strap, adjustable. Patented ventilation ports on each side of the eye-cups are constructed to prevent sparks or light to reach the inside. The field of vision has been increased by the use of 50 mm. diameter lenses. Lenses may be changed simply by removing the metal cups which unscrew from the frames

of the eye-pieces. The goggles are made of a molded plastic substance known as Oxweldite, which is formed over a fabric base, and is designed for resistance to heat, light and electric current.

Linde Air Products Co., 205 East 42nd St., New York City.

:: :: ::

Improved Belt Lacers.

New models of the No. 8 and No. 6 Clipper Speed Lacer, for lacing belts, have been brought out. It is announced that the No. 8 machine will lace a belt 8 inches wide in one operation. A ¾ turn of the crank is all that is required to force a row of hooks uniformly into an 8-inch belt. A new high standard of pressure on the belt has been developed by a new principle, embedding the hook in perfect alignment flush with the surface, prolonging the life of the lacing and reducing the wear on the hooks and pulleys, it is pointed out. The No. 6 machine is similar except that its stroke is limited to a 6-inch belt, which it will lace at one operation.

Clipper Belt Lacer Company, Grand Rapids, Michigan.

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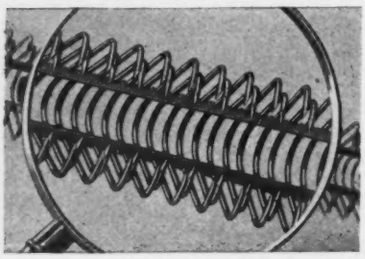
Safety Belt Hooks.

Steel binder bars are used in a line of belt hooks, which are so designed that the hooks are staggered, there being a long and a short leg alternately on each side. They are applicable to fabric, rubber, balata and rubber belting. The steel binder bars, it is explained, are permanently affixed to each hook, for holding all of the hooks together. They fit flush with the edges of the belt to reinforce the belt ends.



Safety Belt Lacer Co., Toledo, Ohio.

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New Prest-O-Weld Cutting Apparatus.

A cutting blowpipe and cutting attachment have been added to the line of Prest-O-Weld medium-pressure apparatus of the detachable body design, all interchangeable with the same detachable valve body, so that the operator can change quickly from a full-size welding blowpipe to a smaller welding blowpipe, to a full size cutting blowpipe or to a cutting attachment, without detaching the hose or hose connections, and without a wrench. The locking device for connecting the detachable valve body to one of these blowpipe handles consists of a locking bolt and wedge-shaped locking screw. The locking screw is operated by turning a ring and draws the detachable valve body and blowpipe handle together, making a gas-tight joint.

Linde Air Products Company, 205 East 42nd St., New York City.

Two New Model Lathes.

Two new model lathes, known as Model "B" and "C" are of interest. These are designed primarily for manual training service, one a metal working and the other a speed lathe for wood work. Both employ the patented Gibbs V-Disc Transmission, and their general construction is much the same. Model "B" is of 11¼ inch swing, made in 4, 5, and 5½ foot lengths of bed, bench, or floor type. The head is enclosed design. The motor being built-in drives the back cone and this cone in turn drives the spindle cone through a Gibbs Disc mounted as an idler between these cones. A star knob is mounted on top of the head which controls the speeds. This knob is lifted upward until the dowel pin is clear of the hole and turned to the hole of the desired speed. There are six spindle speeds, 67 to 580 r. p. m. Every bearing in the head is ball bearing. The spindle runs on angular contact bearings which are adjustable to wear.

Model "C" is a speed lathe for wood work. Its general construction is the same as Model "B", only the speeds are much higher. The swing over the bed is 12 inches, and it is made in 4, 5, 5½ and 6 foot lengths of bed. The ½ hp. motor is built in the head, giving six spindle speeds which may be anything within the usual range. Two standard groups are furnished: 600 to 3,000 or from 400 to 3,400 r. p. m.

General Radial Drill Company, 1767 Elmore Street, Cincinnati, Ohio.

Knitting - Braiding and Allied Lines

Picot Attachments for Ribbers.

The perfection of a picot attachment for ribbed tops, producing attractive effects both in the top edge and body of cuffs and tops of infant's socks and anklets, has just been announced. In conjunction with the Fidelity four-color machines, unusual designs are possible through the introduction of the different colored yarns in the picot edge itself, it is pointed out.

Fidelity Machine Co., Philadelphia, Pa.

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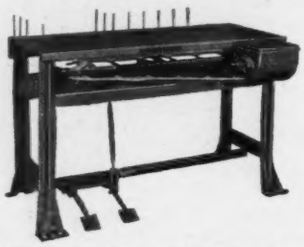
Hosiery Inspection Form.

A new development in a hosiery inspection form is the use of two foot treadles for expanding the form. This it is explained, permits giving the stocking only a slight expansion for the first inspection and to preclude the possibility of runners developing from any small breaks in the stocking. After



the first preliminary inspection, the operator uses the second foot treadle to give the stocking full expansion and to complete the inspection. This machine, it is pointed out, permits examining the hosiery while it is flat, permits expanding the stocking in one operation, holding it under tension at all times during the examination.

The tension is adjustable for different widths of stockings, and there are adjustable features on the heel piece. A counting device, which resets itself automatically, is provided. The form is of cast bronze, and as it is expanded, puts a predetermined tension on all parts of the stocking with one motion, this being exaggerated at the heel, the narrowing, the seaming, and the looping.

Smith, Drum & Co., Allegheny Ave., below 5th St., Philadelphia, Pa.

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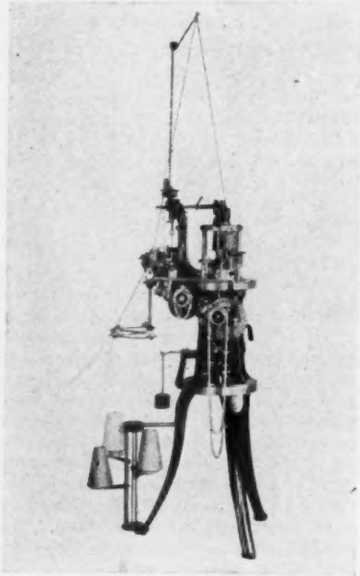
Multi-Step Lace Ribber.

A new multi-step ribber for producing lace work makes possible, with the use of the four-color yarn changer,



Multi-Step Lace Ribber.

a machine new to this country and producing ribbed fabric never before manufactured on other than full-fashioned machines, and known to the retail trade as imported merchandise, it is announced.

Fidelity Machine Co., Philadelphia, Pa.

:: :: ::

Full-Fashioned Accessory.

The Grip-Rite attachment, developed by a group of knitters in one of the large Middle West Hosiery organizations, is meeting with favorable reception among the full-fashioned hosiery

mills. This device is designed to prevent seconds through the holes made by the fastening hook.

Fidelity Machine Co., Philadelphia, Pa.

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Double Sole Thread Clipper.

A double sole thread clipper has been adapted to take care of hosiery made with the French heel and slipper sole. The machine is power driven, and is along the same design and construction

of the standard machine. It is of the pivoted horn type, so that the horns may be adjusted to any desired angle, from horizontal to vertical. A light touch of the foot on the pedal causes a small friction pulley to operate the knives used in cutting the threads.

Smith, Drum & Co., Allegheny Ave., below 5th St., Philadelphia, Pa.

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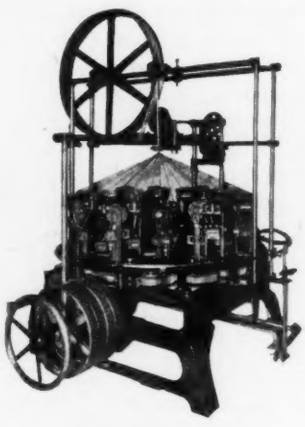
Braiding Machine Developments.

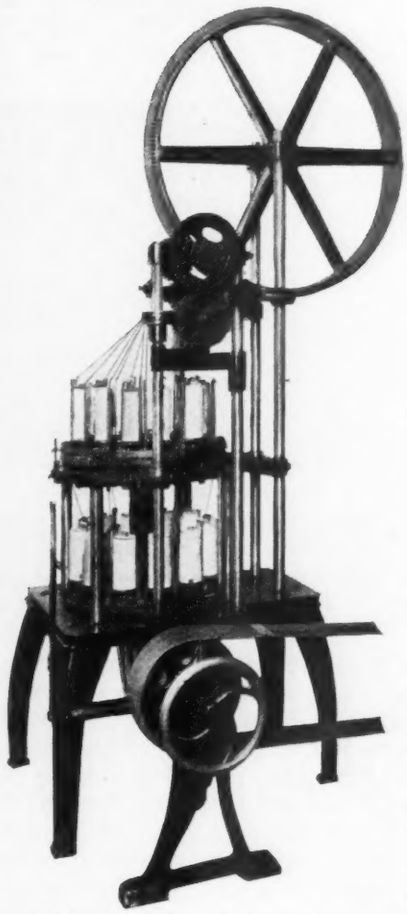
Recent developments in a line of multiple head braiding machines for producing a large number of braided products such as fish lines, Jacquard lacings, cords, shoe laces, electrical sleevings, tying tapes, flat and round elastics, gas tubings and many other braids, are interesting.

These machines are an outgrowth of the old type of braider, with improve-



Wire Braider.

ments. They consist of a number of braiding units mounted on a structural steel and cast iron frame, and supplied with a built-in line shaft and positive gear drive for each unit. At the same time, each unit has its own stop motion, feed head and take-off, so that it can be operated independently of the other units of the machine. The line



High Production Cable Braider.

shaft is built into the machine and extends at each end for a slight distance so that a number of machines can be coupled together and driven by one motor and chain drive.

A new type of high production cable covering braider has also been brought out. In this machine, half the yarn packages are mounted above the other half, for increasing production and yarn capacity, and decreasing floor space. It is used in the production of cables, hose and similar goods where a large capacity machine is needed.

A braider has been introduced to meet a demand for a machine to produce wire braid covered tubings, cables and wire ground straps. It is fitted with carriers having horizontal bobbins so that the material leaving the bobbins travels in a free and direct route without being subject to any sharp bends. Consequently, stiff wires of copper steel or aluminum can be used.

Fidelity Machine Co., Philadelphia, Pa.

:: :: ::

Attachments for Operating Lastex Yarns.

During the last year a number of special attachments have been designed for laying-in elastic yarns on machines equipped with cylinder and dial. This attachment is adaptable to a number of different types of machines and proved most valuable in the production of merchandise using the recently developed Lastex yarns. There are available three distinct methods of handling the elastic yarns; Laying-in the Lastex between the cylinder and dial needles; knitting it in by means of two-color yarn changer; and knitting in the fabric itself using the knot-tying principle, assuring of no giving between the Lastex and other yarns since a positive knot makes the join.

Fidelity Machine Co., Philadelphia, Pa.

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Spring Needle Multiple Striping Machine.

A spring needle multiple striping machine for ribbed or flat swimming suits, sweaters, outer garments, etc., has been placed on the market. This machine will produce ribbed fabrics, striped in four different colors. A unique feature is that by removing the top needle, flat or plain fabrics may be produced. On this class of work the use of the striping attachment is optional.

Charles Cooper Company, Inc., Bennington, Vermont.

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Humidor for Full-Fashioned Machines.

The Flexalin unbreakable humidor was designed for use on machines in the manufacture of full-fashionery hosiery, for properly conditioning silk or rayon for good continuous knitting fabric. It is humanly controlled, but of such character that water need be added on the basis of only twice a week. The practical size suggested is 4¾ inches in diameter x 11 inches high, and the humidor consists of an aluminum top and bottom, with an unbreakable transparent tube.

Bachmann Brothers, Inc., 1420 East Erie Avenue, Philadelphia, Pa.

Books on Problems of Management.

Under the title "Management Problems—With Special Reference to the Textile Industry," the University of North Carolina Press, Chapel Hill, N. C., has published a book of broad interest to textile executives. The volume, which was edited by G. T. Schwenning, represents a collection of addresses delivered before the Students Section of the Taylor Society at the University of North Carolina. It is divided into four parts, the first covering textile problems and giving addresses by Henry P. Kendall, Bernard M. Cone, and C. T. Murchison. The second part is devoted to personal problems, and the third section covers selected problems, such as Scientific Management, Scientific Marketing, etc. An appendix represents the fourth part and contains a discussion of Scientific Management in a Textile Business, by Henry P. Kendall, and a Discussion of General Administrative Organization and Control, by Frederick L. Lamson. The price of the book is $2.00 per copy, and copies may be secured direct from the University of North Carolina Press or through COTTON.

CURRENT TOPICS

Talk of the Month.

The General Situation in Textile Markets.

HOPE DEFERRED from spring to fall in the cotton goods industry did not become realization in September. That was the unfortunate part of the market story. The improvement of the manufacturing situation depends upon the raw-cotton situation, the broad economic developments of the world and the expansion of purchasing power. At first blush the last-named seems another hope to be deferred. But on second thought, hinging on the adjustments which have been made in raw cotton and prices of cotton goods, it appears that the industry has been put upon a new foundation at last from which good results gradually should be built up.

When the Government crop estimate of September practically confirmed that of August, it appeared also to become a stabilizing factor in the market. But the lowest prices for a generation in the raw material naturally were the occasion for new adjustments in the prices of cotton fabrics. On the other hand, this phase of things naturally led to a belief that deflation had about been completed all around, unless the wage situation be excepted, and the way paved for a new start toward prosperity by establishment of prices calculated to inspire consumptive buying.

Not only has it been reported within the month that mills were carrying the lowest stocks of raw cotton for six to seven years, but George A. Sloan, president of the Cotton-Textile Institute, was authority for the statement that cotton textiles entered the fall with stocks at the lowest point since 1927. It is the history of the industry that low-priced cotton stimulates demand and while the heavy movement of the crop early in the season may be a temporary deterrent to recovery, through some price uncertainty, the market is so low as to invite new uses of cotton.

Industry probably has suffered from the plethora of week to week ballyhoo on the economic situation, but even outside interests have been taking note of the constructive measures of the textile industry to put its house in order. As one observer recently said, there has been much waste of time and thought on when the turn would come, instead of entire devotion to constructive work which would force a change for the better. Confidence has been manifest in textiles, says another, and equivalent readjustments in other industries would engender it there. As cotton manufacturing is the largest employing industry, moreover, it may become a large factor in the general progress toward economic recovery. The idea is gradually percolating trade that profits can be made on cheap cotton and low-cost fabrics as well as on high, or inflated, levels.

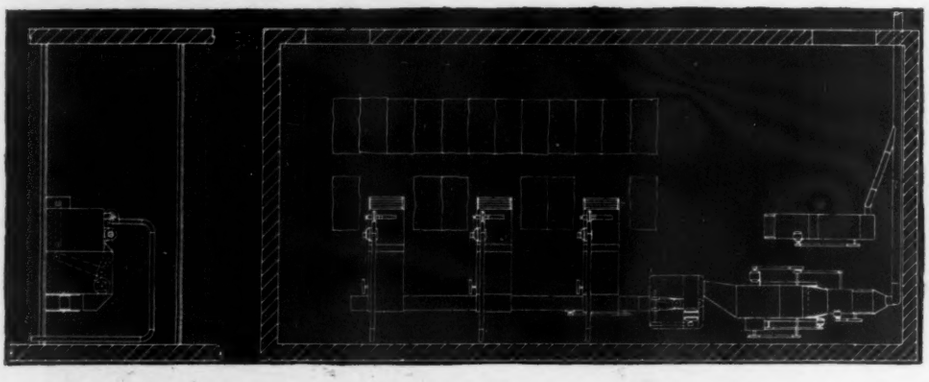
From a prospective standpoint, it may be that the current situation will prove to be the soundest for a long time. The talk of "fundamental soundness" in high places early in 1930, on reflection, is shown to have been utter nonsense. And nothing else could be true, since a healthy basis hardly would be the outgrowth of an inflated plant, but a new growth from a replanting. This new basis is the planting of the 1931 cotton crop at what is said to have been the lowest cost for a decade or more, coupled with the healthy regulation of operation by mills against the time when a more liberal schedule was warranted by buying. Indeed, some observers are looking to such expansion as will mean a new activity in the replacement of machinery and even additions to equipment.

Among the developments which have become conspicuous in textiles generally is the tendency to broaden the field of each. The cotton industry is embarked on a program for all-the-year promotion of its fabrics and garments for the cooler weather are seen to be gaining prestige even this fall. The reverse of this cotton tendency is found in wool lines, the manufacturers of which have been driven by modern conditions of life to produce lighter and even sheer fabrics, till this year has brought a decided vogue for such constructions in women's wear. This obviously makes for growing competition between textiles. Yet the general impression from August-September reports was that the textiles in common have been pursuing policies which put them in position to reap among the first industries the benefits of the favorable statistical and price position which is the order of the day. It has only lacked a turn in other fields to create a strong feeling of confidence.

New England Mill Situation.

MILL SENTIMENT in New England the first of the fall has perhaps been more optimism for the future than actual improvement of the present. It was hardly to be expected that much change would ensue on the upset caused by the Government crop report of August 8, showing condition of August 1 to be forecasting the heavy yield of more than 15½ million bales of cotton. There was a natural tendency toward hesitation until after the crop report of September 8, which as it happened merely bore out the forecast of a month earlier.

The statement of Russell H. Leonard, treasurer of the Pepperell Mfg. Co., in mid-September contained some ermarks which might be held expressive of the general situation: "At the date of writing it is impossible to determine if the cotton textile industry is definitely headed for better times. Selling continues active but competition is still very strong and the prices obtainable are not sufficient to afford a reasonable profit to producers. The recent marked improvement in the worsted and shoe industries may presage an early improvement in cotton textiles. There is as yet, however, no evidence that the turn has arrived in our industry any more than in business in general."



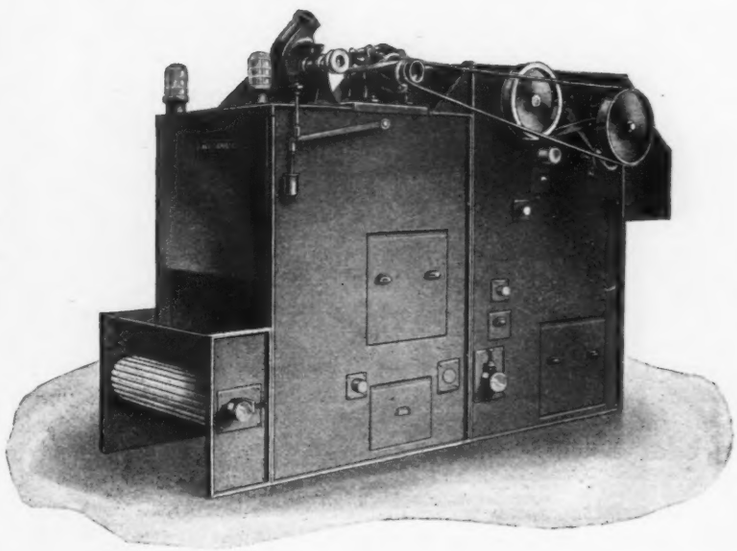
At Last! Mixing and Blending in a Dust-Free Atmosphere

Accomplished with the

F-7 FEEDER

THE large hopper is designed to remove all floating impurities—such as fine lint and dust—through the self-contained dust fan, whose exhaust is piped to the dust room. At the same time, the extra large combing roll, working in connection with the heavy spiked apron, opens the cotton thoroughly.

The plan illustrated is but one of many prepared by us to show the use of this new feeder. Other plans are illustrated in a new and very complete booklet which will be sent upon request from any of our offices.



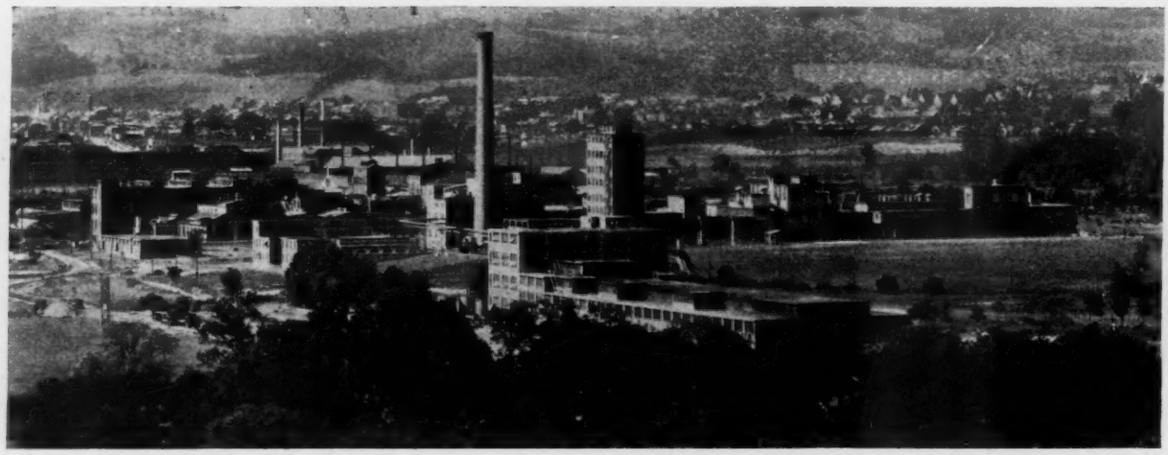
SACO-LOWELL

MANUFACTURERS OF TEXTILE MACHINERY

147 MILK STREET, BOSTON, MASS.

Charlotte, N. C. · Spartanburg, S. C. · Atlanta, Georgia

Eastman Acetate Rayon Plant at Kingsport



THE Eastman Kodak Company begins in October turning part of its production of cellulose acetate into acetate yarn, following more than two years of semi-commercial yarn production and the recent completion of a large acetate yarn spinning plant at Kingsport, Tennessee. The yarn mill will be operated by the Tennessee Eastman Corporation, a wholly-owned Kodak subsidiary. Tennessee Eastman already manufactures cellulose acetate at Kingsport, and also the acetic acid and acetic anhydride which are used in making cellulose acetate.

The cellulose acetate used to make yarn at Kingsport will have characteristics similar to that going into the manufacture of photographic film, a delicate chemical operation requiring fine materiasl and closely scrutinized production and the same methods will be used in the production of Eastman acetate yarn.

Eastman acetate yarn, it is announced, will be one of the company's main products; and it is further stated that during the past two years the new yarn has been tested and approved by consumers in every phase of the weaving and knitting industry. The yarn will be distributed by the A. M. Tenney Associates, 171 Madison Avenue, New York City. It will be sold in a full range of commercial counts from 150 to 45 denier, in skeins, on spools, cops and cones including tinted cones for the knitting trade. Eastman's entry into the field is announced as a reflection of the company's belief in a demand for yarn with special characteristics commanding a price premium, determined after a very thorough market study.

This section has been sharing, nevertheless, in the larger activity which is reflected in cotton consumption during recent months, with its gain at least over last year. New Bedford mills were reported doing more volume than in 1930 the first of the fall, though the practice reported was to avoid orders for occupation of machinery only and without profit. A better feeling was existent also in Fall River, based upon increased inquiry if nothing more. There was evidence in calls for immediate deliveries of the lack of supplies in distributing circles which augurs the better times expected, if some business had to go by the board because mills lacked stocks.

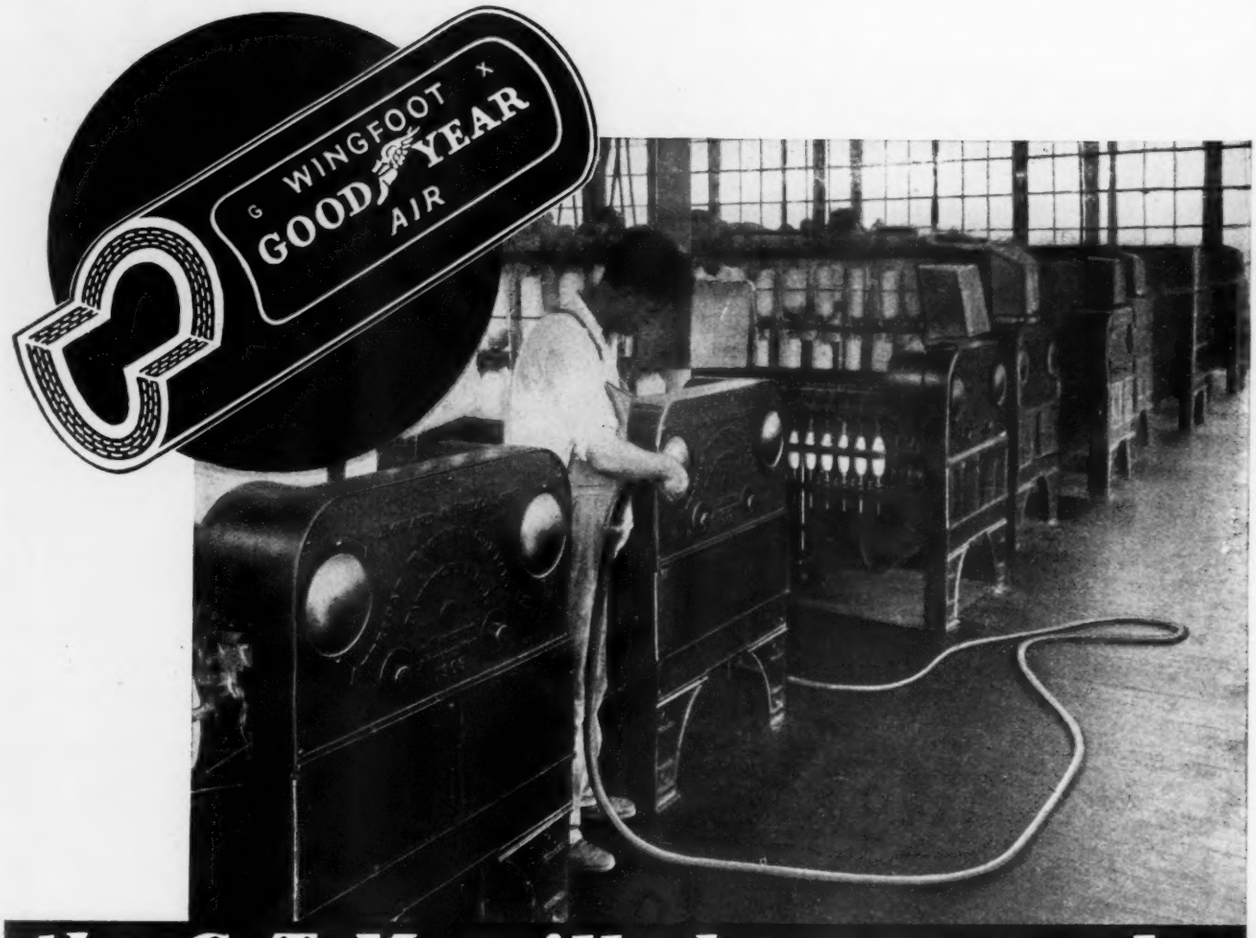
Manufacturers are showing themselves alive to the possibilities in diversification of their products, one more or less common effort being in the admixture of rayon yarns. This may offer a way of lessening the inter-competition of one kind of textiles with another. Similarly, the diversification of lines by the Pepperell company to include rayon and silk production is a possible move which should conduce to a stronger competitive position. At the time of writing, the latest advices were that this company was considering an experiment with such production at Fall River.

Another progressive move by the Wamsutta Mill is the introduction of blanket covers, with the same sort of merchandising tie-up as in its arrangement with Wilson Bros. on shirts, shorts, etc., preserving the identity of the fabric through the finished goods. The Monument Mills, of Housatonic, Mass., also have extended their line of cotton bedspreads, with a construction in soft pastel color tones; reversible, preshrunk and guaranteed fast to sun or repeated launderings.

Merger plans have had a prominent place the past month, with three mills known as the Draper group involved in a new proposition. Directors of the Queen City Cotton Company, Burlington, Vermont, the Pilgrim Mills, Fall River, and the Pemaquid Mills, New Bedford, voted in favor of a consolidation and stockholders were to act late in September. Although until somewhat recently it had been thought that this group would be involved in the other fine-goods proposition long discussed as the Newman plan, the latter is believed to be still under consideration. All of which points to the establishment of strong grouping of the fine goods mills of New England. The resignation of Gilbert T. Thompson as president of the Berkshire Fine Spinning Associates and his election as chairman of the board of directors, brings John McMahon, only 36 years old, into the presidency of one of these groups. Thus New England makes another move along the line of injecting new blood into control of its mills, although the change in this case was because of the poor health of Mr. Thompson.

While this section is felt to be recovering a healthy position in its surviving cotton mills, there are two notable cases which show the continued interest of northern investors in manufacturing South. These are the purchase by the Pepperell company of 50,000 spin-

CLEAN UP WITH WINGFOOT AIR HOSE



the G.T.M. will show you why

Air Hose for clean-up work around textile machinery is one of those frequent purchases in which the G.T.M. — Goodyear Technical Man — can help. If you have been using heavy or cumbersome hose, you should hear from him of the advantages in hose from Goodyear.

Light, strong, and just flexible enough, Goodyear Wingfoot Air Hose is standard equipment in countless textile mills. It allows the operator to do a good job in out-of-the-way corners with ease and quickness. The cover has the right weight to resist abrasion from machines. The carcass is firmly woven of strong cotton cord to withstand pressure and accidental crushing, while both inside tube and cover stoutly resist the disintegrating effects of lubricating oil.

Goodyear makes numerous types of hose that will save in your plant. The G.T.M. will tell you about them. He is experienced in fitting Steam, Water, and Welding Hose to special operating conditions. You should see him about the savings in new-type Goodyear THOR and Goodyear COMPASS Endless Belting. Just write to Goodyear, Akron, Ohio, or Los Angeles, California, and ask him to call.

BELTS
MOLDED GOODS
HOSE
PACKING

THE GREATEST NAME IN RUBBER

GOODYEAR

dles for the plant at Lindale, Ga., a modernizing move, and the plans of the Pacific Mills to broaden operations at Lyman, S. C., by installing printing machinery. The latter is the culmination of plans under contemplation when the plant was built. Both projects are tokens of the spirit of enterprise among far-seeing manufacturers.

The Fallacy of Legislative Action.

IF COTTON could be saved from its friends and the politicians, it might eventually succeed in adjusting itself in its economic relations. Practically everything that has been done so far has only added to its predicament. The state and the nation cannot legislate a cure any more than they can relieve unemployment by passing a resolution to give every unemployed man a permanent job. That doesn't create the jobs.

The public is always an easy prey to the nostrums of the politically-minded, unscientific office seeker or office holder. The Farm Loan Banks were one of these nostrums that led the farmers further into debt and the government into ill repute. The Federal Farm Board, with its various stabilization policies, was another that led the farmers into high hopes with false foundations. Perhaps these political leaders are more to blame for present conditions than are the farmers themselves, but even now are endeavoring to work out another nostrum in the guise of prohibitive policy strengthened by a possibility of unconstitutional legislation.

False hopes lead certainly to greater violations of economic laws, and when they explode, the tragedies are the greater. Natural adjustments are the only dependable ones. If the farmers and others can once become convinced that they alone have the key with which to unlock the door to economic safety, they will eventually use it.

Like the millions of bales held by the Stabilization Board and the co-ops, legislative restriction of acreage will only act as a deterrent to the normal action of market factors and produce more confusion. It is reported that the Farm Board has received more than one thousand proposed solutions to the current predicament. Doubtless there are thousands more and the practical and possible application of one is about as good as another insofar as results are concerned.

Essentially, the problem of the farmer, and its solution, is exactly that of any other business man, agrarian, commercialist or industrialist. He must individually throw off the shackles of inflexible tradition; he must reduce his unit cost of production; he must provide for his market that which his market will take; and he must, through an enlightened understanding, adapt himself to the requirements of a new day. Whether these modern demands be in the form of a diversified production, a higher quality, or a lower price, or a combination of these things, the farmer must readily adjust his operations to them. Collectively, the farmer must apply these principles broadly, and learn and exercise those fundamental concepts of intelligent co-operation which are necessary in the permanently successful and profitable operation of any other important phase of American business structure. Enlightened understanding will come only through a raising of the intelligence with which the farmer applies accepted standards of business principles to his operations.

Speeding Up Unemployment.

FALL IS now here, and depleted stocks of merchandise, reserves in the homes and industries of the nation must get their present and future demands supplied. The crop has about moved its production possibility out of the realm of uncertainty. The supply and its influence can be fairly well rated. The winter with its increasing demand is approaching, so that production in textile mills is slightly increasing to meet this demand. Caution should ever be the watchword, however, in any program of speeded production.

Textile manufacturers have been much in the picture during the depression because of their dogged and determined—and successful—attempt to adjust production to demand. Most mills are maintaining a sensible statistical position relative to stocks.

It is good that mills can now increase their production because winter with its challenge to unemployment is facing the industry. The textile manufacturers, with their alternating part-time employment, their villages and welfare work, their intimate knowledge of the needs of their people, are perhaps caring for them better than any other group. Increased employment assists in this program.

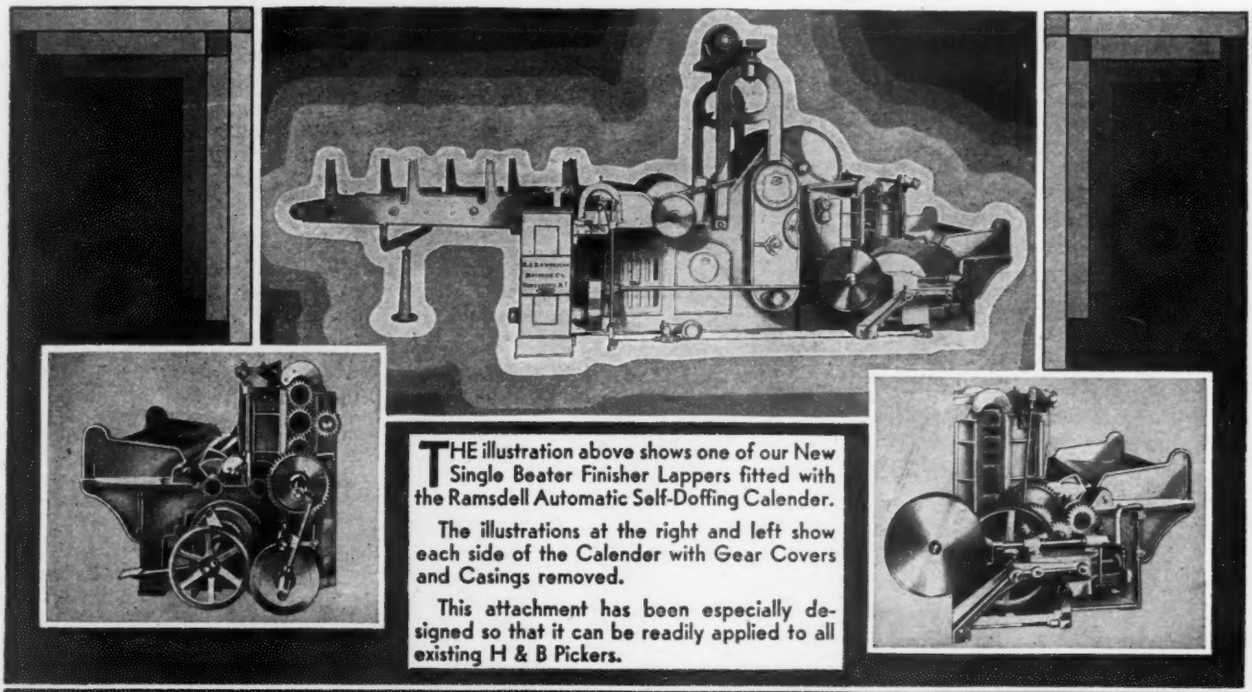
This winter textile manufacturing will be successful if mills can maintain fairly steady operations, care for their employees with reasonable comforts, and hold their stocks in check ever ready for any market upturn, even though they may not earn dividends in every case. This winter faces industry with its endurance challenge to care for humanity rather than its invitation to make handsome dividends.

Capital Must Pay.

TWO RATHER serious problems are challenging business at this time, and both are financial. The first is a deficit in the United States Treasury, assumed by some to approximate one billion dollars. This must be handled in some way, and a high ranking senator is reported to advocate a general sales tax of one-half of one per cent upon all commodities sold to the public. This measure may never pass, but it indicates the enormity of a financial burden which must eventually fall upon the shoulders of those who are supposed to be able to bear it.

The second problem is the tax to be legally imposed or voluntarily assumed for the care of unemployment during the coming winter, and even further if necessity demands. Governor Roosevelt of New York is reported to have drafted six bills, revising the income tax brackets and rates to a point that will result in gathering about twenty million dollars for unemployment. This legislation does not carry with it an idea that the state is to assume more than contributory responsibility, because the various counties and municipalities which participate in this fund will have

INCREASED PRODUCTION
WITH DECREASED COST OF LABOR, ... POWER AND REPAIRS . . . .



THE illustration above shows one of our New Single Beater Finisher Lappers fitted with the Ramsdell Automatic Self-Doffing Calender.

The illustrations at the right and left show each side of the Calender with Gear Covers and Casings removed.

This attachment has been especially designed so that it can be readily applied to all existing H & B Pickers.

THE RAMSDELL AUTOMATIC SELF-DOFFING CALENDER

UNCANNY in its operation. With almost imperceptible hesitation it automatically removes the completed picker lap, places a new lap roll in the calender, carefully folds over the oncoming sheet of cotton, lowers the lap racks and applies the brake . . . continuous operation from start to finish . . . without assistance of human hands. The results are no bad piecings, no piling up of cotton on the cages, no damaged screens, no starting torque—and with absolutely fixed yardage and weight for every lap.

We shall be glad to provide further detailed information upon request or arrange for a demonstration at your convenience.

8 AUTOMATIC OPERATIONS IN 6½ SECONDS

1. Releasing brake
2. Raising lap racks
3. Severing lap sheet
4. Doffing finished lap
5. Placing new lap roll
6. Folding lap end
7. Lowering lap racks
8. Resetting brake

H & B AMERICAN MACHINE CO.

PAWTUCKET, RHODE ISLAND

BOSTON OFFICE
161 Devonshire Street

ATLANTA OFFICE
815 Atlanta Trust Co. Bldg.

COTTON PREPARATORY AND SPINNING MACHINERY

to rase an approximate amount. New York City alone expects to spend something like fifty million dollars for the care of its destitute.

These figures are given to indicate the extreme derangement of economic conditions, and the drain upon capital made necessary by such conditions. In Washington there are many divergent opinions as to how the National Government can participate in this much needed program. Unemployment insurance and the dole with various modifications hang menacingly in the offing. Senator Harrison of Mississippi, although opposed to the dole as a policy, insists that the present emergency justifies a Federal subsidy to the idle. President Butler of Columbia University stresses the idea of some form of unemployment insurance through state agencies, but warns against the dole. The educational advisor of a large insurance company has said that we are headed toward the dole unless business interests assume charge of the agitation for unemployment insurance and create funds within the institution itself to parallel those maintained by corporations as sinking funds. Such funds, he declares, should be developed by contributions from both employer and employee.

England, with her permanent and abiding list of unemployed, with the ever increasing burden of taxation, and the dole, with her declining financial position as the world's greatest banker, is a striking example of a continued indifference to the problem of unemployment.

While unemployment may not seem to be such a problem in the South, because of the extensive area and widely separated centers, nevertheless it is a serious problem, and the influence of the remedies used in the more acutely affected centers will be reflected in the southern area unless very effective methods are employed before necessity compels.

More Consumption of Cotton.

IN A RECENT statement, President Callaway of the American Cotton Manufacturers Association, recommends two cotton constructions to supplant burlap for wrapping rolls and bales of cloth, and tubes and cones of yarn, etc. One is a 18x22 count, to replace 7½ and 8-ounce burlap; the other 22x24 count, to take the place of 10-ounce burlap. Both are being used at the Callaway mills. The construction is as follows: The mix is 40 per cent average good ordinary cotton—average 15/16-inch staple—and 60 per cent average upland strips, with 17 per cent waste in manufacture considering 13 per cent sizing on the warp. The yarns are 8s singles, both ways. The warp twist is 13.3 turns per inch, and the filling 11.16. Mr. Callaway points out that their experience shows it is practical to use this wrapping instead of burlap, and that with costs figured on October cotton, 6¾ cents a pound, he makes it cheaper than the cost of burlap.

Reports indicate a continuing interest at a number of mills in the use of cotton uniforms; also that, in North and South Carolina, considerable quantities of cotton will be baled in cotton bagging. The previous suggestion of fabric belts has met with widespread approval.

What the Southern Mills are Doing

THE PLANT of the Pepperell Mfg. Co., at Lindale, Ga., has purchased 50,000 new spindles, to replace existing equipment. These frames are of the long-draft type, and were purchased from Saco-Lowell Shops. The cylinders will be equipped with Fafnir ball bearings.

A 90-foot addition to the plant of the Cotton Mill Products Co., at Starkville, Mass., is being erected.

The plant formerly operated by the General Asbestos & Rubber Co., Charleston, S. C., has been taken over by the Awnbest Corp., and fireproof awnings and similar fabrics are being manufactured.

A large installation of single process pickers, including an extensive opening and picking equipment, has been put in at Bemis Bros. Bag Co., Bemis, Tenn. The equipment was furnished by H. & B. American Machine Co. All of the single process pickers are fitted with the Ramsdell automatic self doffing calenders. The H. & B. American Machine Co. is also installing single process pickers fitted with the Ramsdell attachment at the Bear Brand Hosiery Mills yarn plant, Kankakee, Ill. Cowikee Mills, Union Springs, Ala., have completed the installation of single process pickers (Arnold system) furnished by the H. & B. American Machine Co., and the Crystal Springs Bleachery, Chickamauga, Ga., are installing similar equipment.

Ten new six-room houses will be added to the village of the Beaver-Lois Mills, Douglasville, Ga.

Contract has been let for the erection of an extension to the No. 2 Mill of Swift Mfg. Co., Columbus, Ga.

The finishing facilities of the Pacific Mills, Lyman, S. C., will be augmented by the installation of piece goods printing machinery. It is understood that the original installation will comprise eight printing machines.

Albermarle Weaving Co., Charlottesville, Va., are planning to increase the capacity of the plant; 50 additional looms will be installed.

Clyde Mills, Inc., Newton, N. C., have been acquired by Clyde Fabrics, Inc., a Deleware corporation. The mill is to be reorganized and operated on a more extensive scale.

The capital stock of the Arcadia Mills, Spartanburg, S. C., has been increased to $1,600,000.

Report is to the effect that a $125,000 addition being added to the Ware Shoals Mfg. Co., Ware Shoals, S. C., will house a bleachery and finishing plant, and that printing machines will likely be installed. J. E. Sirrine & Co., Greenville, S. C., are the engineers.

Hyatt roller bearing three-compartment desizing machine has been installed in Plant No. 9, Cannon Mills, Concord, N. C., by the Briggs-Schaffner Co., of Winston-Salem, N. C.

A new yarn-gassing machine, manufactured by the Cocker Machine & Foundry Co., has been installed at A. M. Smyre Mfg. Co., Gastonia, N. C.

A boiler house is being added at the Swift Spinning Mills, Columbus, Ga. Robert & Co., Inc., Atlanta, Ga., are the engineers.

A three-story addition is being erected at the Cetwick Silk Mills, Asheboro, N. C. R. C. Biberstein, of Charlotte, is the architect.

An addition to the silk plant at Dunean Mills, Greenville, S. C., is under way.

"CUSTOMERS MUST BE SERVED QUICKLY"... SO THE PEPPERELL MANUFACTURING CO. SPEEDS ALL ITS OPERATIONS BY TELETYPEWRITERS

Fall River, Mass.

Lewiston, Me.

Boston, Mass.

Biddeford, Me.

New York, N. Y.

TELETYPEWRITERS* are helping The Pepperell Manufacturing Company carry out its policy that "Customers must be served quickly." Distant offices and plants are only seconds away because of these machines that transmit typewritten messages by wire. Thus, information at one unit is instantly available at all others.

"Perhaps a large order is in the offing," an official explains. "Many details have to be checked before we can meet the customer's requirements. Within a short time, all the required data is available at the New York sales office, from the executive office in Boston, from the mills at Biddeford or Fall River, from the Bleachery at Lewiston. Rush orders are sent to the mill in a few minutes, thus saving at least a day in servicing the customer. By means of Teletypewriters, the heads of departments closely control the operations of the mills, tying them in efficiently with the pulse of the market. In the final analysis, every message that is sent over the wires is for service to our customers, whether it be a message from one department head to another, a price quotation, a shipping order, or a credit request."

Many companies in the textile field find Teletypewriters equally valuable. Your local Bell Telephone Company will gladly study your communication needs to determine whether they could be of similar value to *your* firm. Just call the Business Office.

* * *

**Teletypewriters flash written messages directly from one office of a company to another, whether they are 300 feet or 3000 miles apart. A message typed on one Teletypewriter is identically reproduced at the same moment on all connected machines.*

AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES — BELL SYSTEM

Comment on the Cotton Market

New Orleans, September 14, 1931.

THE COTTON MARKET was more or less under pressure during the past month, for while temporary bulges were experienced, offerings were free on spurts, new low price levels for thus far this season and for many years past having been recorded lately as result of the September 8th government report indicating a crop of 101,000 bales larger than was promised one month ago. However, owing to efforts being made to force a drastic reduction in the cotton acreage next spring by legislation, there is a probability of a better market in the future.

SEASON'S INDICATED WORLD'S SUPPLY OF AMERICAN COTTON

Bales—	This season	Last season
World's carry-over, August 1st (Hester)	8,710,000	5,939,000
Indicated crop, as of September 1st, bales of 500 lbs. gross weight	15,685,000	13,932,000 (final)
Season's indicated world's supply, about	24,395,000	19,871,000
World's consumption of American ..lint (Hester)	(1)	11,045,000
Season's average value of middling, based on the ten designated markets	(1)	9.57

In an effort to solve the present crisis in the cotton situation in the South, due to the prospective burdensome supply, Louisiana recently adopted a law to prohibit the growing of cotton in the State in 1932 contingent on similar legislation by States producing seventy-five percent of the cotton crop, based on the 1930 production.

Meanwhile the Texas legislature has been called in extra session to consider adopting a law similar to the Louisiana measure or some other proposal for a drastic reduction in next year's cotton acreage in that important State. At this writing the Texas legislature is still in session. Whatever Texas may do, other legislatures of the cotton states will likely be called into extra session to consider and act on the acreage question.

TOTAL AVERAGE RAINFALL IN TEXAS

Inches— Year—	1931	1930	1929	1928	Normal
August	2.02	1.51	0.87	2.11	2.44
Nov. to Aug. inclusive	24.84	21.67	26.43	21.84	25.30

The movement to market is comparatively light, the basis is reported firm, probably owing to light offerings and the desire to fill September commitments, especially for the Orient which is generally a good buyer when prices are very low as at present.

Unlike the farmer, spinners appear to be in an enviable position, having the advantage of very low prices for raw cotton, cheap money, lower ocean freight rates, in some cases lower wages, while stocks of cotton goods in trade channels are reported small; conditions that usually make for an improved working margin and a better and more profitable business.

CENSUS REPORT

United States— Bales—	This season	Last season
Consumption lint, August	425,819	352,626
Consumption linters, August	60,729	58,105
Consumption including linters, August	486,548	410,731
Mill stocks August 31st	839,850	1,014,819
Stocks in public storage & whs., August 31st	4,426,154	3,456,371
Stocks in mills, pub. stg. & whs., August 31st	5,266,004	4,471,190
Active spindles during August	25,622,526	25,814,188
Active spindles during July	25,836,262	26,457,786

ASSOCIATION OF COTTON TEXTILE MERCHANTS OF NEW YORK AUGUST STATISTICS

Yards—	August 1931 4 weeks	July 1931 4 weeks	August 1930 5 weeks
Production	209,050,000	192,545,000	218,815,000
Sales	167,555,000	158,353,000	235,272,000
Shipments	227,644,000	211,331,000	231,348,000
Stocks	250,855,000	269,449,000	442,996,000
Unfilled orders	217,508,000	277,597,000	226,422,000

August sales of domestic cotton goods were 80.1 percent of production against 82.2 in July this year and 107.6 in August last year. Shipments were 108.9 percent of production against 109.8 in July this year and 105.7 in August last year. Stocks at the end of August decreased 6.9 percent against a decrease in July this year of 6.5 and a decrease in August last year of 2.8. Unfilled orders end of August decreased 21.6 percent against a decrease in July this year of 16.0 and an increase in August last year of 1.8.

Referring to the past week, the Hunter Manufacturing & Com. Co., New York, stated in part: "The week's sales were smaller than those of recent weeks. There were two holidays over the week-end, and the crop report, and nothing in particular to inspire the waiting buyers to immediate action. Nevertheless, this period of delay is about over. Commencement of active fall buying has almost never failed to show itself by the 15th of September, and we expect to see it get under way next week."

SECRETARY HESTER'S FIGURES
MOVEMENT TO MARKET AND EXPORTS FROM THE UNITED STATES

September 11th— Bales—	This season	Last season
Week's in sight (marketed)	228,560	471,405
In sight August 1st to September 11th	690,103	1,579,218
Week's exports, including Canada	85,300	190,800
August 1st to September 11th	374,500	588,500
Spinners takings, August 1st to September 11th—		
Southern Mills	314,000	279,000
North and Canada	80,000	88,000
Foreign mills	570,000	437,000
World	964,000	804,000

WORLD'S VISIBLE SUPPLY OF COTTON SEPTEMBER 11TH.

Bales—	This year	Last year
American	4,714,041	3,862,928
Other kinds	1,852,000	1,910,000
All kinds	6,566,041	5,772,928
Middling in New Orleans, Sept. 11th	6.44	10.63

For the week ended September 11th, spot sales at reporting southern markets were 163,628 bales versus 241,096 for the corresponding week last season. The smaller sales than the corresponding week last year were partly attributed to there having been two holidays the past week, because of the high basis and lateness of movement of the new crop to market.

The lateness of the new crop is disclosed in the smallness of ginnings to September 1st., which, according to the Census Bureau, were only 565,160 bales versus 1,879,919 to same date last year, of which Texas was credited with 353,023 against 1,120,125.

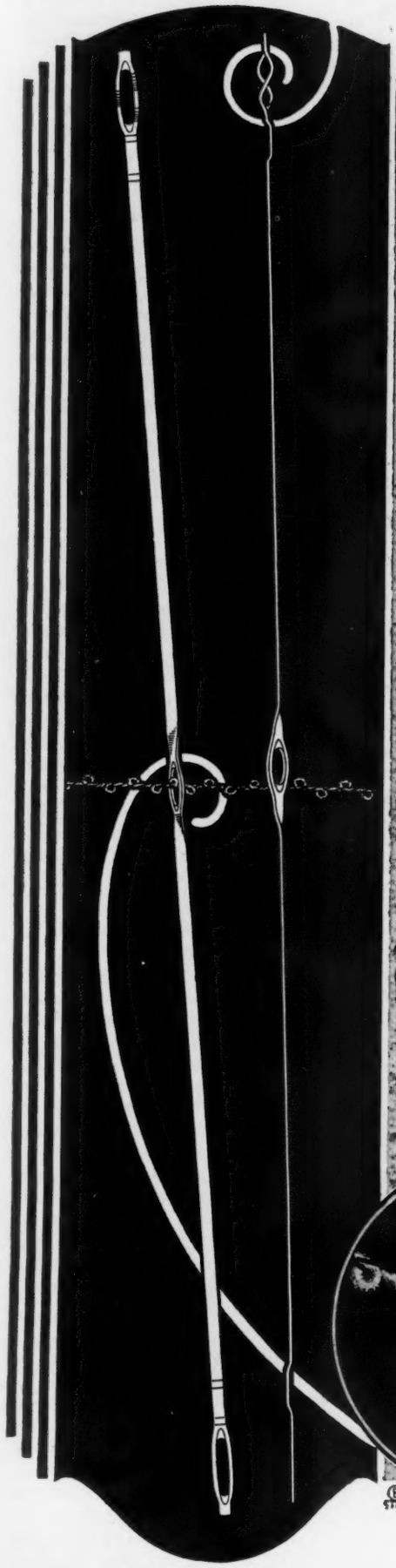
Washington's summary of weather and crop conditions in the cotton region for the week ended Tuesday, September 8th—"The week was mostly unseasonably warm in the cotton belt, with generally light to moderate rainfall, though locally heavy rains fell in some northwestern and northeastern districts. In general the weather was favorable and under the influence of considerable sunshine and warm weather cotton bolls opened more rapidly, with greater activity in picking in a good many places, but at the same time the harvest in general continued rather slow.

"In the western belt the outlook continued about as recently reported, though in some dry parts of Texas and Oklahoma hot weather intensified drought conditions. Picking is becoming more general in Oklahoma, while there is further complaint of rank growth and poor fruiting in some eastern wet districts.

"In the central states of the belt cotton made mostly satisfactory progress, while in the more eastern sections the weather was generally favorable except for too much rain in parts of the north."

At present, as has been the case for a long while past, the public mind is concerned with the depression, low prices, large stocks, under-consumption and the unemployment situation. But the large stocks, available at such low prices, are likely to be attractive to the prudent buyer, whether he be the customer, merchant, investor or spinner, particularly if, as is probable, Texas enacts a law to force drastic reduction in the cotton acreage next spring, which program would likely be adopted later by a sufficient number of cotton states to make the measure operative.

The greatest average reduction in cotton acreage in recent years was about 15 per cent, yet was sufficient to bring about the desired result—much higher prices the following season. Such being the case, what may be expected to follow eventually in event of the South deciding, not by resolution, as in the past, but by law to reduce next year's acreage materially?



The HEDDLE for KNOBBY YARNS

Specially designed for the weaving of the popular fabrics made of knobby yarns.

Large eye, turned half way round permits the free passing of this irregular warp thread.

Eliminates all danger of chafing and obstruction.

Lower your costs with increased production by the use of this Special Heddle.

Send us a sample of what you are weaving and we will recommend the proper heddle.

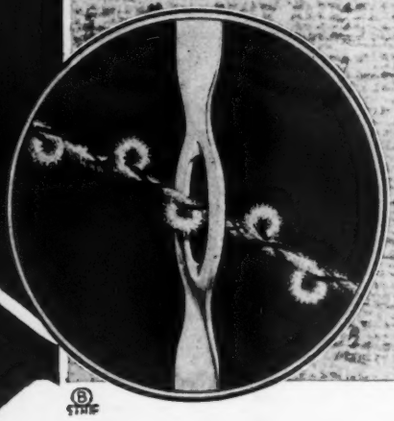
Steel Heddle Mfg. Co

Main Office and Plant
2100 W. Allegheny Ave.
Philadelphia, Penna.

Southern Plant:
Steel Heddle Building
621 E. McBee Ave.
Greenville, S. C.

New England Office:
44 Franklin St.
Providence, R. I.

Foreign Offices:
Huddersfield, Eng.
Shanghai, China



Note in enlarged view how the rounded, glass-smooth eye, almost a half turn, permits free unobstructed passage of warp thread without chafing. Also note scientific crimping at top which prevents heddle turning on bar.

NEWS ITEMS *with a Textile Slant*

1931 Edition of N. A. C. M. Year Book.

The 1931 edition of the National Association of Cotton Manufacturers Year Book is now being distributed to mill executives in the cotton manufacturing countries of the world. The compilation of data of interest to the manufacturer has been effected with care and is more thorough than ever before. The book is divided into two main sections, Statistical and Technical. Because of the present situation in regard to supplies of raw material on hand, a review is given in concise fashion of the last eight American crops. The statistical section has been brought up-to-date, and new tables added, including more subdivisions by classes of fabrics and the division of the production of cloth into groups of fabrics with yarn numbers averaging 40s and below, and above 40s. The Technical section has also been enlarged. Information relative to humidifying practice, and Government general specifications for textile materials, are among the features.

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Lubrication Corporation.

The Bendix Aviation Corporation and the Standard Oil Company of Indiana have associated themselves in formation of the Lubrication Corporation for the manufacturing and marketing of grease fittings for all makes of automotive and industrial machinery, grease dispensing equipment, automotive lubricants, and lubrication service.

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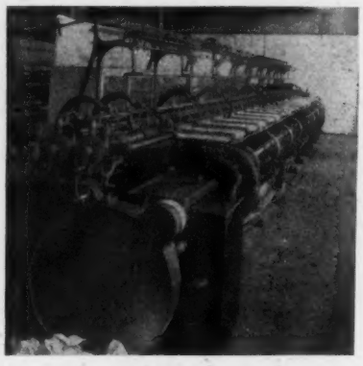
Page Opens Atlanta Office.

The Page Steel & Wire Co., Bridgeport, Conn., have opened a southeastern district sales office at 1520 Healey Bldg., Atlanta, in charge of R. J. Teeple. The company's products include various types of woven wire fence, wrought iron fence, welding wire, highway guard and general wire products. The Page company is an associate of the American Chain Co., Inc., Bridgeport, Conn.

:: :: ::

Full-Fashioned Machine for Lowell Textile School.

An 18-section full-fashioned legger of the Reading type, for demonstration and instruction in the knitting department, has been installed at the Lowell Textile Institute, Lowell, Mass. The machine is suited to the production of full-fashioned legs of cotton, silk or rayon, and will illustrate the flat spring needle type of action, which previously has been illustrated with a hand frame about 100 years old. A topping machine and transfer bars will be used



Legger at Lowell.

to illustrate the transferring of the leg to the footer, and a looper from the Southern Textile Machinery Co., will complete the unit.

In addition to the full-fashioned machine, the equipment of the knitting department includes flat machines of the Lamb, Grosser and Dubied types suited to plain, rib, cardigan and purl fabrics. The varieties of ribbers suitable for cuffs and legs includes those made by Wildman, Brinton and Fidelity. Automatic half and full hose machines include four models of Scott & Williams, and three Banner models. The loopers are of the Beattie, Hepworth and Record types. The drying forms are the steam heated type of Philadelphia Metal Drying Form. Sixteen sewing machine models include Merrow, Union Special, Singer and Wilcox & Gibbs. For underwear, bathing suit, and jacket materials, there are a Scott & Williams ribber, a Wildman ribber and a Crane flat fabric spring needle knitter. The winders are of the Payne and Universal No. 50 type for silk, rayon, cotton and worsted. A Barfuss raschel warp knitter fitted with an automat to facilitate producing a variety of patterns illustrates warp knitting.

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J. H. Windle Opens Own Business.

J. H. Windle, formerly northern and export sales agent for the Woonsocket Machine & Press Co., Inc., the Fales & Jenks Machine Co., and the Easton & Burnham Machine Co., has opened an office at 30 Olneyville Square, Providence, R. I., as mill engineer and machinery agent, furnishing service on mill plans, surveys, re-locations and appraisals, etc. He deals also in new and used cotton, silk, worsted and rayon machinery.

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Move Texas Office.

L. Mundet & Son, Inc., of Texas announce the removal of their Houston office from 2420 Nance St., to a new building erected for them at Commerce & Palmer Sts. The new building provides more space for carrying cork insulation of all kinds and sizes in stock, with ample office space. In addition, this office carries also the full high temperature line of asbestos products as manufactured by Keasbey & Mattison, Ambler, Pa.

:: :: ::

New Edition of Cotton Handbook.

The 1931 edition of Comtelburo's Annual Cotton Handbook, with its usual detailed and comprehensive information concerning cotton and cotton statistics brought up-to-date, has been issued. This is the 61st year of publication of this handbook, which, as always, carries a complete statistical story of cotton equally indispensable to spinner, merchant, exporter and shipper. The price, in cloth cover, is $1.00 per copy. Copies may be secured through COTTON or from Comtelburo, Ltd., 25 Beaver St., New York City.

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Carolina Co-Operative Council Resumes Its Activities.

The Carolina Co-Operative Council, an organization composed of over 300 key men from the plants of the Carolina Cotton & Woolen Mills Company, started its year 1931-1932 with its first meeting on September 22nd. The council is beginning its twelfth year as an organization. The new officers are: S. T. Anderson, president; W. J. Baughn, vice-president and chairman program committee; J. O. Thomas, secretary; H. E. Wright, assistant secretary; L. W. Clark, E. E. Easley, L. M. Barksdale and H. W. Owen, committee chairmen. J. J. Shumate is the retiring president.

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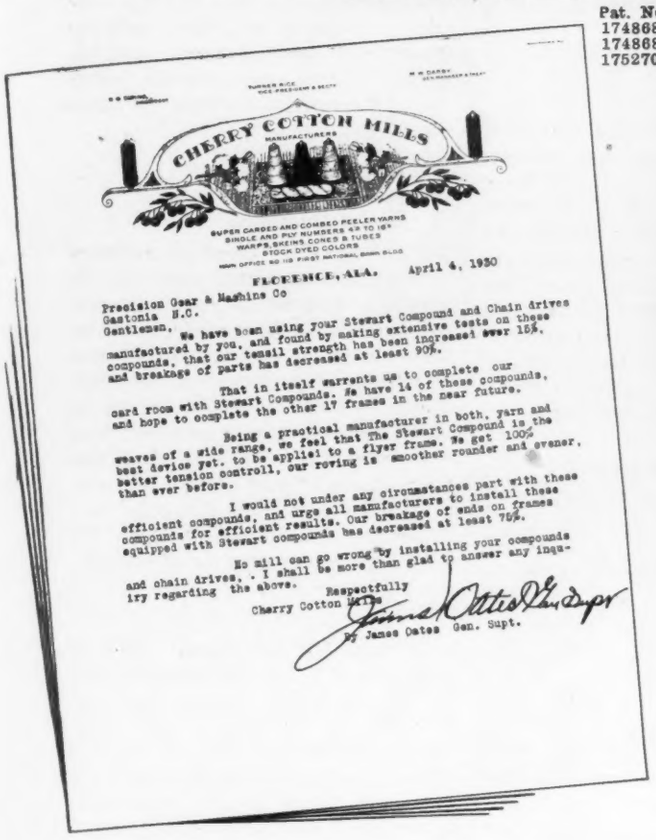
1931 Edition of Textile Blue Book.

The 1931 edition of Davison's Textile Blue Book has been issued. This standard textile directory gives, among other information, the following: directory of cotton mills, woolen and worsted mills, silk mills, knitting mills, jute, linen and flax mills, Canadian and Mexican mills, dyers and finishers,

More Than 300 Mills Will Gladly Say as Much for the Stewart Compounds with Whitney Chain Drives for Roving Frames

Pat. Nos.
1748683
1748684
1752708



CHERRY COTTON MILLS
MANUFACTURERS
SUPER CARDED AND COMBED PEELER YARNS
SINGLE AND PLY NUMBERS 4/8 TO 16/1
WARPS,SKEINS CONES & TUBES
STOCK DYED COLORS

FLORENCE, ALA. April 4, 1930

Precision Gear & Machine Co
Gastonia N.C.
Gentlemen,

We have been using your Stewart Compound and Chain drives manufactured by you, and found by making extensive tests on these compounds, that our tensil strength has been increased over 15%, and breakage of parts has decreased at least 90%.

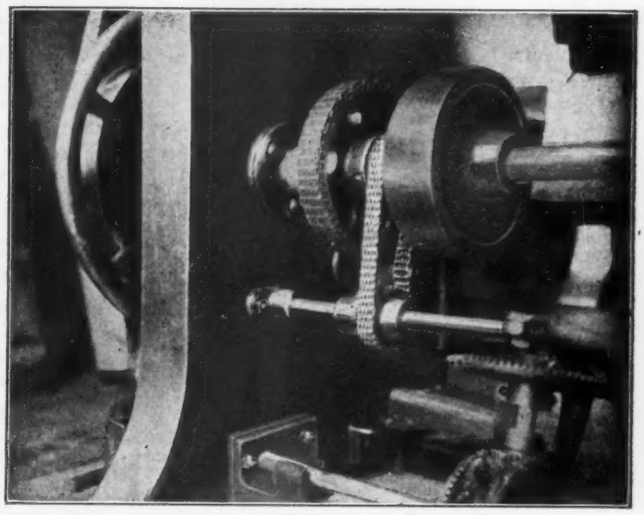
That in itself warrents us to complete our card room with Stewart Compounds. We have 14 of these compounds, and hope to complete the other 17 frames in the near future.

Being a practical manufacturer in both, yarn and weaves of a wide range, we feel that The Stewart Compound is the best device yet. to be applied to a flyer frame. We get 100% better tension controll, our roving is smoother rounder and evener, than ever before.

I would not under any circumstances part with these efficient compounds, and urge all manufacturers to install these compounds for efficient results. Our breakage of ends on frames equipped with Stewart compounds has decreased at least 75%.

No mill can go wrong by installing your compounds and chain drives. . I shall be more than glad to answer any inquiry regarding the above.

Respectfully
Cherry Cotton Mills
By James Oates Gen. Supt.



Wherever the STEWART compound was tested against the old types of compounds, the Stewart proved its worth, and was readily adopted as standard equipment. Many mills are now in process of changing over to the Stewart, and some have already changed over, and will gladly recommend it as the best investment they ever made.

STEWART COMPOUNDS HAVE MADE GOOD ON OUR CLAIMS by convincing hundreds of practical manufacturers of textile, that the STEWART compound will make evener, rounder and smoother roving than can be made with the old types of compounds and old type horsehead gears.

ROVING made on the Stewart compound will be free from thick and thin places, that are caused by the backlash in the old type compound and the jerk and vibration inherent to the old type horsehead gearing.

STEWART COMPOUNDS WITH WHITNEY CHAIN DRIVES HAVE PROVED UNDER RIGID TESTS that end breakage is reduced from 50% to 70% although in many tests the twist has been reduced from two to four teeth, and in several cases the twist has been reduced as many as seven teeth. Thus the increase in production.

Every movable part in the Stewart compound runs in the same direction, thus the reduction of the load on the cone belt of from 35% to 50%.

The STEWART COMPOUND WITH WHITNEY CHAIN DRIVE reduces the upkeep of the entire frame. Because of its quietness of operation, it eliminates the vibration and rattle of the entire frame, thereby prolonging the life of every part of the frame, and reducing repair costs.

STEWART compounds cost less to operate, because they eliminate from 20 to 30 points of friction (depending on the make of frame) and also eliminate many useless gears now on your frame.

STEWART compounds will make the entire frame run lighter, and will free your card room from the annoyance caused by breakdowns due to compound and horse head gear trouble.

Stewart compounds need attention only 4 times each year, because they run in a bath of oil, with only one central oiling point which you fill with one pint of oil and drain and refill every 3 months. You will drain out as much oil as you have put in. This is your assurance that no oil found its way to your work, or your machine and floor.

If you are interested in improving the quality of your roving, increasing your roving frame production, reducing power consumption, as well as parts replacements, just write or wire us, and our representative will call to demonstrate a full size model.

STEWART COMPOUND with WHITNEY CHAIN DRIVE

for Whitin, Providence, Woonsocket, Lowell, Saco-Waterpower, Saco-Petty, Saco-Lowell, and H. & B.
JACKS——ROVINGS——INTERMEDIATES——AND SLUBBERS

Manufactured and patented by

PRECISION GEAR & MACHINE CO., INC.
GASTONIA, N. C.

mills with dyehouses, commission merchants, etc. It shows statistics arranged by states giving the number of spindles, looms, cards and combers in the mills; and many other useful reference tables and sections. Two editions are issued. The office size, containing all features, is $7.50; the handy edition, $5.00; and salesmen's directory, giving full reports of all mills and other plants, is $4.00. Copies may be secured through COTTON or direct from the publishers, Davison Publishing Co., 50 Union Square, New York City.

:: :: ::

Dayton Rubber Enlarges Plant.

Dayton Rubber Manufacturing Co., Dayton, Ohio, makers of Dayton cogbelt drives, standardized fractional horsepower drives, fan belts, etc., have recently erected another building to furnish additional warehousing and shipping facilities. This is the ninth unit to be erected by the company since it moved to its present location in 1921, and represents an investment of approximately $30,000. The building is brick, concrete and steel construction, 160 x 180 feet, and was put up in 24 working days.

:: :: ::

Southern Schools Made Participating Laboratories.

Both the textile school of North Carolina State College, and the textile department of Clemson Agricultural College have been selected as "participating laboratories' in the work of the United States Institute for Textile Research. The former is at Raleigh, N. C., and the latter at Clemson College, S. C.

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Worthington Acquires Metalweld.

Worthington Pump & Machinery Corp., Harrison, N. J., have acquired the manufacturing and marketing facilities of Metalweld, Inc., Philadelphia, Pa., builders of a complete line of portable compressor units.

:: :: ::

New Publications.

Two new publications pertaining to mechanical power transmission equipment for general industrial use have been issued by the Westinghouse Electric and Manufacturing Company.

Westinghouse-Nuttall Flexible Couplings—is the subject of Circular No. 1887, which contains complete descriptions, capacities, dimensions and weights of the different types, the company states.

It is stated that Circular No. 1891 entitled, Westinghouse-Nuttall Speed Reducers Types SVR, DVR and DVRA contains full information about the application, construction, ratings and dimensions of these vertical type units for single and double reductions and right angle drives. Numerous existing applications of the different types are illustrated.

Copies of these publications are available upon request from any Westinghouse sales office or from the company's advertising department, at East Pittsburgh, Pa.

:: :: ::

Anthrene Red G 2B Double Paste.

Newport Chemical Works, Inc., Newport, N. J., recently placed on the market a new dye, the trade name being Anthrene Red 2B Double Paste, which they state is a vat color unsurpassed for the production of deep, bluish-reds on cotton and rayon. They state it has excellent fastness to practically all color destroying influences and is unaffected by metals, which, they point out, makes it suitable for the dyeing of cotton in all stages of manufacture.

:: :: ::

N. C. Full-Fashioned Men Hear Dr. George W. Taylor.

Members of the North Carolina Full-Fashioned Hosiery Manufacturers Association, meeting at Blowing Rock, N. C., on September 4th and 5th, were addressed by Dr. George W. Taylor, of the industrial research division, University of Pennsylvania, on "Intelligent Competition". C. W. Gaddy, manager, knitting department, Wiscassett Mills Co., Albemarle, N. C., is chairman of the executive committee. Morris Price, of Greensboro, N. C., is secretary.

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Patent on Beam Rest and Lock.

According to Paul B. Eaton, patent attorney, Charlotte, North Carolina, there was issued on July 14, 1931, Patent No. 1,814,789 to William H. Bahan, of Bahan Textile Machinery Company, Greenville, South Carolina. This patent is for a beam rest and beam lock for looms and is adapted to be secured to looms and to receive the warp beam spindle, and means are provided for locking the warp beam in the bearings which are attachable to each side of the loom.

:: :: ::

Monel Metal.

Giles Dyeing Machinery Company recently announced that in developing a machine for doing skein winding they found that neither wood nor lacquer covered wood sticks were adapted to the purpose, not only on account of the tendency to roughen and absorb dyestuffs, but because of the caustic alkali and hydrosulphite destroying the wood and rendering the dye stick useless in a very short time.

They point out that to combat this, sticks were made from Monel metal tubing which were found to be ideal for the purpose, and some have now been in use for about two years and are apparently as good as when first put to work. They state it has been found that they not only withstand the chemicals used in the dye bath, but that they actually improve with use, becoming smoother as they are used. One important feature, the company points out, is the ease with which the sticks are cleaned.

:: :: ::

Chlorantine Fast and Direct Dyestuffs.

The Society of Chemical Industry in Basle announce that Card No. 776 consists of 72 dyestuff types in the dyeing of half wool in the cold, at 50 degrees Centigrade, and at the boil. The cold dyeing Chlorantine fast and direct dyestuffs lend themselves easily to cross dyeing or to the preparation of two color effects on half wool, also for mixtures of wool viscose half silk, etc., according to Ciba Company, Inc., Cedar and Washington Streets, New York City, representatives of the society in this country.

WILLIAM LEE has opened offices in Charlotte, N. C., as southern sales agent for International Devices Company, makers of the "Yarnometer" slub catcher; the Belger Company, makers of "Elastix" rolls for long draft spinning, automatic roving testers, mechanical sliver testers, roll spacing testers, and skewerless bobbin holders, etc.; the Hartmann Textile Works, makers of the Hartmann spinning process for spinning yarns from drawing sliver; and U. Pornitz & Co., makers of steaming and conditioning machines, hydro-extractors, bleaching apparatus, and dyeing and singeing machines for hosiery. For 23 years, prior to their absorption by Whitin Machine Works, Mr. Lee was associated with Woonsocket Machine & Press Co., and Fales & Jenks Machine Co. He is a native of Manchester, England.

Obituary.

J. A. ADAMS, superintendent of the Tupelo Cotton Mills, Tupelo, Miss., died recently. He had previously been superintendent of the Springstein Mills, Chester, S. C., and other Carolina plants.

H. S. ROSSELL, vice-president of the Hunter Manufacturing & Commission Co., New York City, died suddenly on August 29th, of a heart attack. Mr. Rossell had been with the Hunter company for about 12 years. He was about 50 years of age, and is survived by Mrs. Rossell and a daughter.

ACCELERATE
GARMENT FINISHING
5 TIMES!

SURELY you are interested in a garment finisher that will do *thirty dozen* garments per hour! More than five times as fast as the old hand method! The Automatic Garment Finisher No. 2000 shatters all records for speedy finishing, and produces much better looking work—just what the buyer of Rayon and Glove Silk wants.

The Garment Finisher No. 2000 comes complete with motor, switch, two sets of hangers and one nicely finished table for storing hangers and receiving unfinished work. It has three compartments which revolve automatically to steam chamber and drying chamber, leaving one compartment always available for loading and unloading.

This machine will earn $5,000 a year for you! It is clicking out work with a speed unheard of only several months ago. The pace has quickened, and you *must* fall into line to keep profits where they belong.

Write for detailed information.

Grand Rapids Textile Machinery Co. GRAND RAPIDS TEXTILE MACHINERY CO. GRAND RAPIDS MICHIGAN U.S.A. SMILOS METHOD *Grand Rapids, Michigan. U. S. A.*

Garment Finisher
No. 2000

NOTES ABOUT MEN YOU KNOW OR KNOW ABOUT

CHARLES R. BRUMBY has been made general manager of the Cedartown Cotton & Export Co., Cedartown, Ga., as well as of the Wayside Inn Co., the Cedartown Warehousing Company, and the Adamson Cedartown Estates, Inc., the enterprises formerly headed by the late Charles Adamson. Mr. Brumby has been associated with the Cedartown Cotton & Export Co. for 25 years, and has been superintendent for the past 15 years.

M. N. SMITH has become overseer of weaving at the Sanford Cotton Mills, Sanford, N. C., succeeding IRA D. BRIDGES. M. A. HELMS is overseer of spinning.

W. S. GRIFFIN has become superintendent of the Alpine Cotton Mills, Morganton, N. C., this position having formerly been held by W. N. DARBY.

JOSEPH C. COBB is now overseer of warp spinning, and C. D. BAKER is overseer of filling spinning, at the No. 2 plant of Lancaster Cotton Mills, Lancaster, S. C.

E. A. MCKENNA, professor of weaving and designing at the textile department of Clemson College, was married on September 5th to Miss Ruth Lucille Wills, of Greenville, S. C. Professor and Mrs. McKenna will make their home at Clemson College, S. C.

O. R. JOHNSON has become overseer of weaving at the Brookside Mills, Knoxville, Tenn. He was formerly connected with the Judson Mills, Greenville, S. C.

L. A. MCALISTER has resigned as overseer of weaving at the Dunean Mills, Greenville, S. C., to take a similar position at the Spencer Mills Co., Spindale, N. C.

SAM T. ANDERSON, foreman of wool carding at the Draper American Mill of the Carolina Cotton & Woolen Mills Co., Spray, N. C., has been promoted to assistant superintendent of the Draper American and Wearwell Sheeting Mills of the company. G. C. TRUSLOW is superintendent of these two plants. Mr. Anderson is also the new president of the Carolina Co-Operative Council, an organization of over 300 key men in the company's plants. Succeeding Mr. Anderson as overseer of wool carding is L. L. BELTON, formerly night overseer. WILL R. JONES becomes the new night foreman, and S. J. HARVEY succeeds Mr. Jones as second hand.

OSBERT HUGHES has become designer for the Ranlo Manufacturing Co., Gastonia, N. C.

J. H. DULIN has resigned as overseer of dyeing at the Wilson Finishing Mills, Burlington, N. C., to accept a similar position at the Larkwood Silk Hosiery Co., Charlotte, N. C.

KARL T. STEIK, recently of the Standard Oil Development Co., has been appointed research director at the new

A. L. Freedlander.

Karl T. Steik.

main laboratories of the National Oil Products Co., at Harrison, N. C. Dr. Steik was graduated from Dorpat University, continuing his work at the University of Koenigsburg, Germany. He holds a master's degree from Harvard University, and a Ph.D degree from the University of Chicago. His appointment as research director of the National Oil Products Company's laboratories is announced as a further step in the company's widening research program.

DANA R. CRAWFORD has been appointed sales manager for James H. Billington Company, 113 Chestnut St., Philadelphia, Pa., manufacturers of bobbins, spools, shuttles and other mill supplies. Mr. Crawford for some time was sales agent of the U S Bobbin and Shuttle Company.

W. A. FINK has been appointed treasurer of the Toledo Scale Company, subsidiary selling organization of the Toledo Scale Mfg. Co., Toledo, Ohio. Mr. Fink has been associated with the Toledo Scale organization for over 13 years as head of the sales accounting division, and assistant treasurer.

C. D. REAMS has been appointed designer at the Victory Mills, Fayetteville, N. C. He is a member of the 1931 graduating class of the North Carolina State College Textile School.

A.L. FREEDLANDER, vice-president in charge of production for the Dayton Rubber Mfg. Co., Dayton, Ohio, is on an extensive trip through European countries, particularly England, France, Germany and Italy. On the trip Mr. Freedlander is visiting all major motor car manufacturers of Europe, as well as the plants of the Rodenwald Co., makers of V-belt drives of the open end or fastener type. The Dayton Company has exclusive manufacturing and selling rights for this drive in the American continents, which to date is used mainly for railway axle-lighting, on both body-hung and truck-hung types.

C. E. FOLK has become assistant superintendent of the Spencer Corporation, Spindale, N. C. He is a graduate of Clemson Textile Department, and for a number of years was connected with Government spinning test research in co-operation with the Clemson Agricultural College.

J. C. CHILDERS has become connected with the Gossett Mills, Anderson, S. C. He is a graduate of the Clemson Textile Department.

A. H. GOODMAN has become general overseer of spinning, twisting and winding at the Cherry Cotton Mills, Florence, Ala., succeeding J. J. PONDERS, resigned.

ERNEST M. POTTER has become associated with J. E. TIPTON, representing the International Business Devices Company. Mr. Tipton and Mr. Potter will represent the company in the South, with headquarters at Charlotte. Mr. Potter was formerly sales engineer with S K F Industries, Inc., and Mr. Tipton had been sales agent for the Toledo Scale Company, Toledo, Ohio.

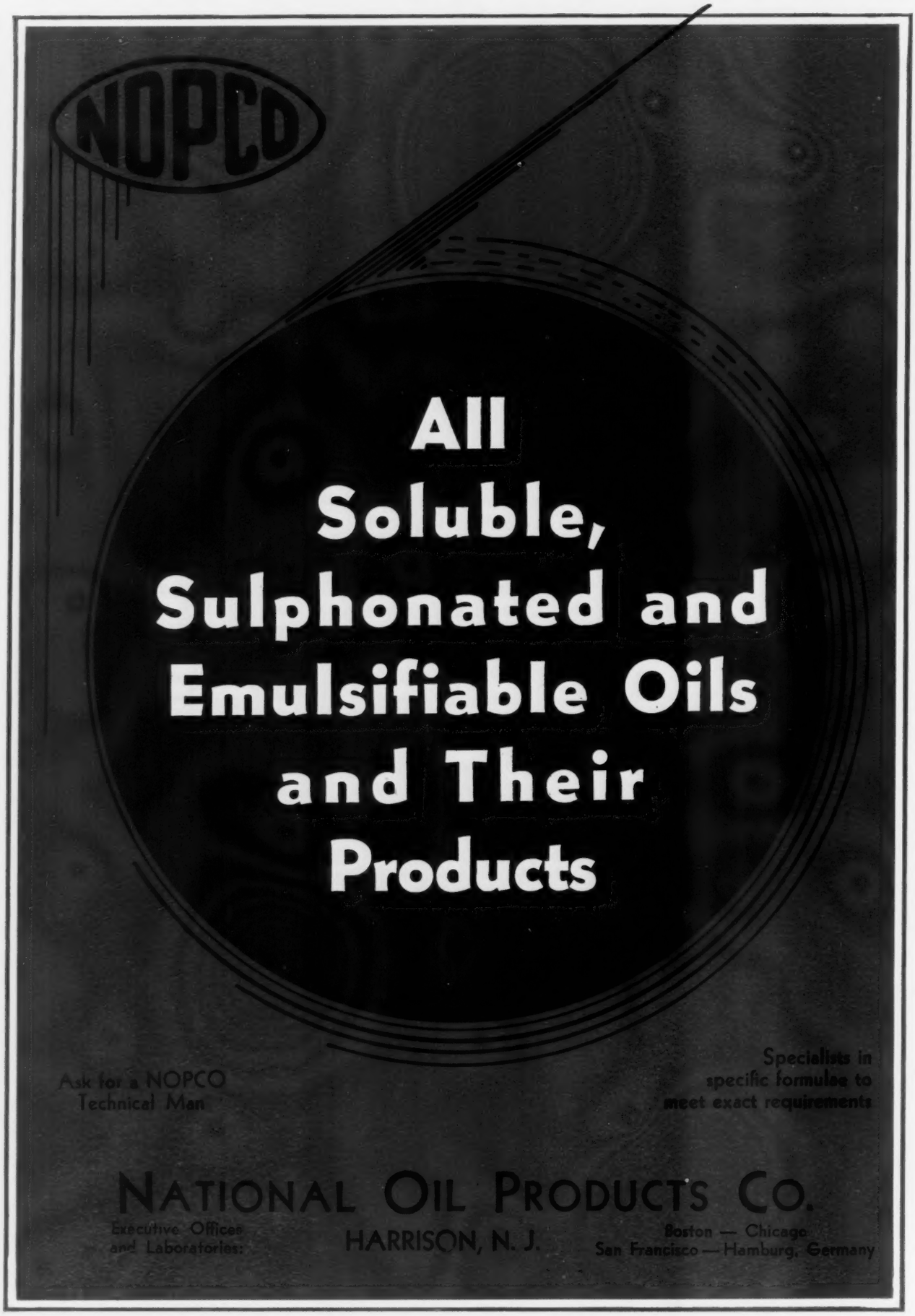
TESTS PROVE IT

Prove what?—The fact that *the Automatic Spooler is more important than the high Speed Warper as a producer of improvements in weaving.* The tests covered a total of 40,026 loom days, averaging 40 looms, 20 on each side, over a period of 189 weeks, or three years, 8 months, 5½ days. Half the looms were supplied with warps wound upon old style spoolers and warpers, the other half of the warps being wound on Barber-Colman Automatic Spoolers and High Speed Warpers. The results—the latter had 22.69% less loom stops, 20.92% *from causes traceable to the Automatic Spooler,* and only 1.77% from causes traceable to the High Speed Warper. This is *11 to 1* in favor of the Automatic Spooler. Write, wire, or phone for further information.

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS

FRAMINGHAM, MASSACHUSETTS GREENVILLE, SOUTH CAROLINA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Soluble,
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NATIONAL OIL PRODUCTS CO.
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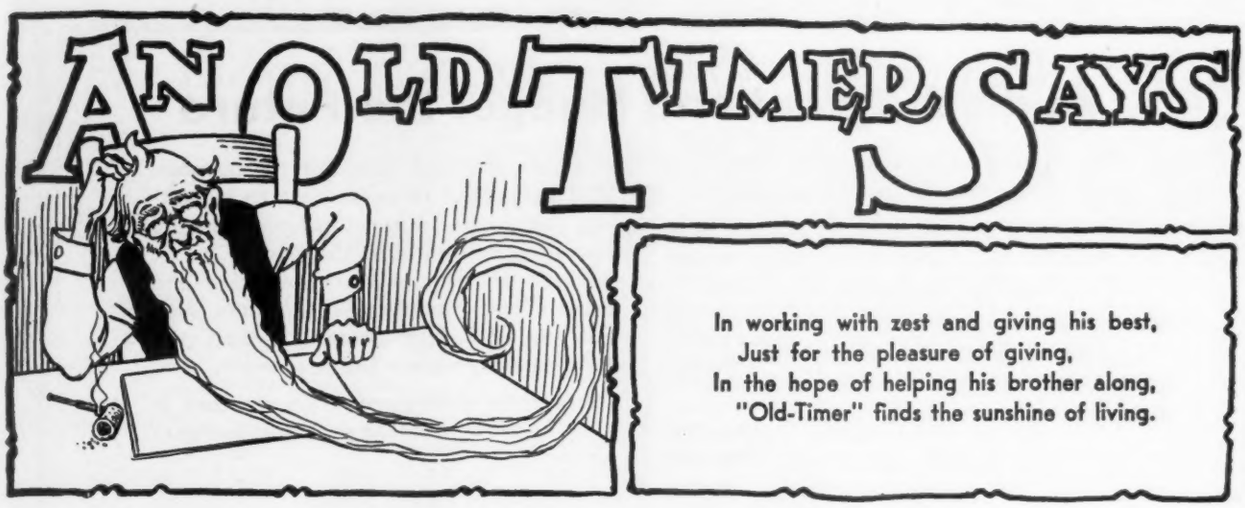
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

"To the Old-Timers"

(Editor's note.—A regular reader of Old-Timer's page sent this little poem in to us, and because it is so appropriate, we are reproducing it here while the old gentleman is taking a belated and well-earned vacation.)

YOUNG FOLKS laugh at us old timers,
And maybe youth has cause,
For when your hair gets white and thin
You don't expect applause.
P'rhaps we're not so handsome,
P'rhaps we're not so spry,
But, when youth gets old as us
Then youth won't wonder why.

For we have fought the battles,
And we have led the van,
And we have made life an easier road
For many a younger man;
And he will do tomorrow
A lot of things that pay,
Because some old-timer thought them out
And tried them yesterday.

We know the world is changing,
The ways of trade are new,
Men put new labels on their goods
And new roofs on houses too;
But still the old foundation
That some old-timer laid,
Still remains the cornerstone
Of all progress men have made.

So gather 'round, old-timers,
Friends of long ago,
Fellows that we're glad to meet,
Fellows good to know.
Some try their friends to purchase,
But seldom friends acquire,
For friendship, like all other gold,
Must first go through the fire.

We have known the snows of winter,
We have known the rain of spring,
But, when the heart is warm within,
That doesn't mean a thing.
We've made a little money,
We've lost a whole lot more,
But money was not all we sought,
Nor all we hungered for.

For youth will talk of profits,
But age will talk of friends,
For friends are all that make you rich,
Or matters when life ends.
So gather 'round, old-timers,
And talk of the past,
For memory is the only wealth,
The only wealth to last.

So, here's to us old-timers,
Whatever youth may think,
Here's a toast to fellowship,
Yes, in fellowship to drink.
Young folks laugh at us old-timers,
So soon upon the shelves,
But, if youth will not drink to us,
We'll drink the toast ourselves.

Audit the Past and Budget the Future

More and more, the dividends of success depend on *reliable facts and figures.*

To know the true financial position of a business and, in their true proportion, the elements entering into its operating results, calls for an adequate independent audit embodying proper analysis of income and expenditures. This is fundamental.

Planning, or *budgeting*, is effective only to the extent that management has available the basic data for the purpose. The analysis of facts incident to budgeting, and the frequent comparison of actual operating results with the budget, point out the deficiencies in organization and waste in operations and expenditures. Such analyses and comparisons are chart and compass to progress and success.

Progressive management *knows* that it must know; *audits* the past, and *budgets* the future.

"BUDGET CONTROL, *What It Does and How to Do It,"* a 40-page booklet issued by Ernst & Ernst, will be mailed by nearest office on request.

ERNST & ERNST

ACCOUNTANTS AND AUDITORS—SYSTEM SERVICE

AKRON	CHICAGO	DENVER	HOUSTON	LOS ANGELES	NEW YORK	RICHMOND	TAMPA
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BIRMINGHAM	COLUMBUS	FORT WAYNE	JACKSON, MISS.	MIAMI	PITTSBURGH	ST. PAUL	WASHINGTON
BOSTON	DALLAS	FORT WORTH	KALAMAZOO	MILWAUKEE	PORTLAND, ME.	SAN ANTONIO	WHEELING
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CLINTON STARCHES

FOR ALL TEXTILE PURPOSES

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CLINTON CORN SYRUP REFINING COMPANY

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QUALITY SERVICE

BARBER-COLMAN

AUTOMATIC SPOOLERS

HIGH SPEED WARPERS

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BARBER-COLMAN COMPANY

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Roll Covering Plant

Fully Equipped with Modern Machinery

Location, Atlanta, Georgia.

EDWARD H. BEST & COMPANY

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BOSTON, MASS.

HOW OTHER MEN MANAGE

Practical Discussions by Cotton's Readers On all varieties of Mill Subjects

Answers Questions on Combing.

Does the half lap or the top comb do the bulk of the combing? Your opinions on this and the other questions will be welcome.

EDITOR COTTON:

I am going to reply to the interesting questions of "CONTRIBUTOR NO. 5070" with regard to combing, which you published in the September issue, in the hope that I may contribute something to the thought on this subject and also that other readers will participate, discussing his questions as well as my answers.

The first question said, "We are using the Whitin Model D 2 comber and find in setting the top comb shaft that if we set it 6¾ inches from the back side of the detaching roll, we cannot get the proper angle on the top comb. In trying to get this angle the top comb drops on the nipper knife. We have had to set our top comb shaft 6½ inches from the detaching roll to allow the top comb to drop between the nipper knife and the detaching roll."

This model of comber is radically different from any comber built that I ever knew of, and this fact must be borne in mind in making any settings on it. When I say radically different, I mean in the fact that the cushion plate is stationary at all times, and I believe there is no other comber with this feature. I also believe that the cushion plate setting and timing is the heart of the comber, and all other setting and timing is dependent on this setting and timing. Of course the builders have been able to omit a lot of adjustment by making the cushion plate stationary, but they have assumed the responsibility of machining the castings that support the cushion plate in such a precision that they are all exactly alike. While this precision is possible it is not practical. This is not intended as a slur at machinists, but no doubt the purpose of this change was to simplify the comber, both for the maker and the user, and if the necessary fitting to make the cushion plates set perfectly was given them, the machine would become more difficult for the maker than before the change, although the user would get more benefit from it.

If a comber fixer in charge of this model realizes the facts and the reasons for them, he can operate his combers and make very good work, but if he tries to apply old comber ideas to this model, he is beaten at the start. I think this answers the question of "CONTRIBUTOR NO. 5070," in regard to setting his top comb shaft. I have seen one top comb hit the nipper knife, and further down on the comber another top comb set at the same angle will rub on the leather detaching roll. These difficulties must be remedied by the fixer, and he must rely on his ingenuity and experience.

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or the finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

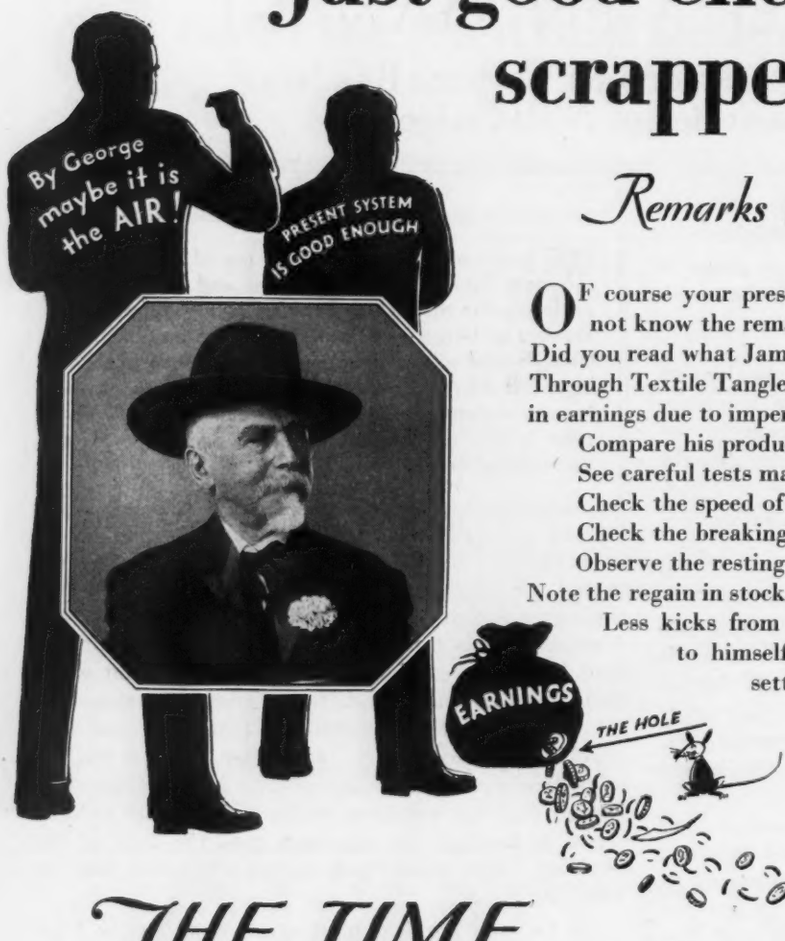
I will not insist on the following idea being accepted, as other comber men have argued with me through COTTON, but have failed to convince me that I am wrong, as my combers have made thousands of pounds of very good work, and I will say that while their ideas are radically different from mine they may set their combers dependent on their idea and still make equally good work—and after all it is the results that count. My idea is that the half lap does the bulk of the combing, while the opposite opinion seems to be that the top comb does the bulk of the combing. The reader can accept whichever idea he likes best.

If the half lap does most of the combing, as I believe, this must be the chief setting point. As the half lap is directly dependent on the cushion plate and nipper knife, the setting and timing at this point is the all-important feature. Now review the third paragraph of this letter. Your cushion plates are rigid, fixed in place, therefore the machine work on the castings must be perfect or else all the plates will not be in line. You have no adjustments that will allow you to set one plate independently of another, so the first thing to do is to fit the blocks so that the plates are in line. When this is once done you never have any more trouble at this point. Now after this is done, if the top comb hits the nipper knife when set the proper angle, move the shaft forward just as "CONTRIBUTOR NO. 5070" did. What difference does that make?

His second question read as follows: "We have always had a great deal of trouble with our waste condensers in keeping the web of waste up between the screen and calender roll. If we set the feed correctly for damp weather, then as soon as the weather dries up, the web stretches and breaks down. We re-set the feed, and when a damp spell comes along the web sags and breaks down."

With regard to this question, this is something that I have trouble with, and I have never found a way to stop it. The rod that folds the web should be polished well and this will help. The changes in weather will affect the web and the feed must be changed to

Just good enough to be scrapped, probably.



Remarks by Colonel Cotton

OF course your present system seems good enough, if you do not know the remarkable recent advances in humidification. Did you read what James W. Cox, Jr., said on page 113 of "Tours Through Textile Tangles"? A doubting foreman could see the hole in earnings due to imperfect humidification if he would—

Compare his production with possible maximum production.
See careful tests made under variable atmospheric conditions.
Check the speed of machines.
Check the breaking strength of the product.
Observe the resting time of employees.

Note the regain in stock, how the work runs better with less waste. Less kicks from the help. More production. Less bother to himself and his second hands. Less machinery setting. Fresh and cooler air in summer, and the girls not "all in" by three P.M.

THE TIME to stop waste is NOW!

HAVE you read of the 43 typical mills which increased profits from $5000 to $75,000 by correcting humidity? No two alike. In weave sheds, carding, roving, spinning and warping rooms; in picker house and various storage rooms, waste and trouble were traced to faulty humidification.

Send for "Tours Through Textile Tangles" by J. W. Cox, Jr., textile engineer and expert.

1. AMCO humidifiers *wash the air* many times every hour. 2. Absorb heat of machinery. 3. Permit maximum speed in all departments. 4. Eliminate fly and static. 5. Give your finished product the moisture content needed.

Automatically controls humidity without using wet or dry bulb actuated devices.

AMERICAN MOISTENING CO.

Humidifying Devices

Air Doctors Since 1888

EXECUTIVE OFFICES
312 West Exchange Street, Providence, R. I.

SALES OFFICES
Boston, Mass. Atlanta, Ga.
Charlotte, N. C. Greenville, S. C.

CANADIAN AGENTS
Ross Whitehead & Co., Ltd.
1111 Beaver Hall Hill
Montreal, P. Q., Canada

keep it pieced up.

He next said that he had tried spraying cotton with oil, but that this caused the half laps on the combers to load up with small bunches of waste. I have never run oiled cotton through my combers, so I do not know how it would act. The half lap will gather waste with cotton that is not oiled, and should be picked and bent needles straightened once a week. I always plan to have four combers picked every day by each section man. In this way the half laps are kept in good condition and any necessary repairs are noticed and reported.

His last question is, "What is a reasonable life for a circular comber brush?" When my combers are running day and night, I strip each comber every six months, and scour and re-set it. Usually the circular brushes can be turned around twice before they are worn out. By turning them you get the bristles straightened up and get the maximum from the brushes.

All combers require a good practical experienced and thinking man as a fixer; the Model D-2 requires the best man available to get the best work out of it, and very good work can be made on this model.

M. W. H. (MASS.)

How to Make Loop Selvages.

A description of how many mills are achieving this successfully in an economical and practical way. Other ideas are invited.

EDITOR COTTON:

I have noted the inquiry of CONTRIBUTOR No. 5053 as to how best to produce a loop selvage on various constructions.

As you know, most fabrics with loop selvages are subjected to a rubberizing process and during this process are put under tremendous tension. It is therefore necessary that the ends in and near the selvage be of the same density as and no tighter than the ends in the body of the cloth. On ordinary fabrics the selvage is usually tighter than the body of the cloth. Should such a condition as this exist on the fabrics which are to be rubberized, the selvages would crack or break and it is therefore necessary that the loop selvage be fairly even so as not to pull the selvage ends in toward the center of the fabric.

There have been a great many devices gotten up by various mills for making loop selvages and most of them have not been wholly satisfactory. The method most commonly used and the most satisfactory one as far as I know, is the use of a piano wire, or some strong steel wire. In using this method a coiled spring is attached to the whip roll rod, the other end of the spring being tied to a string which passes through a drop wire in the stop motion the same as any of the other ends in the cloth, and then between the stop motion and the harnesses this string is attached to the piano wire. From this point the wire passes through the harnesses and on into and through the temple. The wire is drawn through the front harness on the right hand side and the back harness on the left hand side. In this way the filling passes around the wire, forming the loop which prevents the filling from being drawn in against the selvage and thereby causes the selvage to be tight. The idea of the spring is to allow the wire to work or "give" a little as the loom beats up. You can readily see that if the wire does not have this spring that it would be very rigid and give trouble breaking on the beat-up of the lay.

The use of the drop wire mentioned allows the loom to stop off in the regular way in case the wire should break.

This method will not be new to any of your readers who have made loop selvages, but as stated it is the most satisfactory method we know of at the present time.

CONTRIBUTOR No. 5081.

How About Your Card Grinding Speeds?

Check up on your speeds and let us have the figures. This should be interesting to everyone.

EDITOR COTTON:

A recent experience of mine suggests a new subject for your discussion department. I say "new," inasmuch as I do not recall having seen it discussed. A recent change to coarser numbers made it necessary for us to speed up our card doffers from 6 r.p.m. to 8 r.p.m. in order to keep up production. The increased speed made a marked difference in the appearance of our work, and for the worse. Action was imperative to bring back the quality of our yarn. We carefully checked settings only to find them what we considered best for the work. Our attention then centered on the clothing and we decided we were not getting good grinding results. Our cards were dull.

The speed indicator showed our grinding rolls were running 430 r.p.m., and the grinder made two traverses across the card per minute. We found that Dronsfield recommends 700 r.p.m., and three traverses per minute, and another reliable source of information said 600 to 700 r.p.m., and three to four traverses per minute.

Before making any change I decided to see just what the other mills were doing and so made a few visits in the vicinity. The trip produced the information shown in the accompanying table:

	R.P.M. of Cylinder	R.P.M. of Grinding Roll	Traverses per Min.	R.P.M. of Doffer	R.P.M. of Grinder Roll	Traverses per Min.	R.P.M. Top Flat Grinder
Our mill	156	430	2	280	430	2	725
Mill No. 1	165	560	5	290	560	5	730
Mill No. 2	172	600	5¼	310	500	4½	670
Mill No. 3	172	490	2	306	490	2	725
Mill No. 4	165	570	2½	292	570	2½	730
Mill No. 5	180	670	10½	320	660	10½	825
Average	168	553	4½	300	550	4¼	734
Our New Speeds	165	700	3½	300	700	3⅓	775

We then went ahead and speeded our rolls as shown, and an improvement in our clothing condition was immediately apparent. The quality of our work is back to normal, and we are looking for the next place that needs attention. This experience shows the danger of taking things for granted. We have ground for seven years at the slow speed just because we took it for granted that the rolls were all right.

I should be very glad if some other men would tell their experience with grinding roll speeds.

CONTRIBUTOR No. 5080.

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This new Du Pont fibre enlivens too many fields to be ignored. For profits' sake!... mill men, converters, knitters, retailers should know its fundamentals.

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★ *Especially designed machinery produces it.*

★ *It is constant in denier.*

★ *It is uniform in length.*

★ *Suited to fine count yarns.*

★ *For either cotton or worsted spinning.*

★ *Takes ordinary viscose rayon dyes.*

★ *Has the dullness of worsted.*

★ *It weaves evenly; dyes uniformly.*

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Means of Getting Evener Laps.

In answering a contributor, this man furnishes information on an interesting test on cleaning 1⅛ and 1 3/16-inch cotton.

EDITOR COTTON:

I am going to give in this letter some information with reference to our experience on 1⅛ and 1 3/16-inch cotton of good grade. I think this information will be of especial interest to "CONTRIBUTOR No. 4838," because in his question, which you published sometime ago and which was answered on page 776 of the June issue, he stated that he is running this cotton and is having difficulty getting clean laps that are free from lumps. It will also be of especial interest to him, inasmuch as the pickers used in our test were of the old type, the 1900 model, which was the case at his mill, and we did not use a bale breaker. However, we made a temporary opener by disconnecting the hopper feed from the breaker picker. The cotton was run through this hopper feeder and stored in the bin for 24 hours. The hopper feed was then connected with the breaker and the test continued.

The breaker used has a porcupine beater, 950 r.p.m., with the fan running at 1,250 r.p.m. The weight of lap produced was 13.75 ounces. The amount of waste removed from the Strict Middling cotton was 1.1 per cent. The feed roll was set within 3/16-inch of the closest point to the beater. The grids both at the top and at the bottom were ½-inch from the beater. An 11-ounce lap was produced on the finisher. A 2-blade beater with 1,235 r.p.m., was used on the finisher, the fan of the finisher running 1,260 r.p.m. The amount of waste removed on the finisher picker was .86 per cent. In the test under discussion, the two-blade beater was set 3/16-inch from the outer surface of the feed roll. The grid bars were set 5/16-inch from the beater at the top position. The bottom grids were set 11/16-inch from the beater.

The cotton of the test was passed through the card with standard settings producing a 46-grain sliver. The amount of visible card waste was 4.72 per cent. The first and second drawing slivers were 47.5- and 49-grain respectively. A 5.50-hank roving was produced and spun into 22s, 28s, 36s and 44s yarn using a twist multiplier of 4.25. The skein break for the 22s yarn was 100.9 pounds, 76.5 pounds for the 28s, 57.6 for the 36s, and 43.6 pounds for the 44s.

In the first place, since this man says he has no openers on this cotton, I would suggest that he run the traveling lattice of his hopper feed at the highest possible rate, and set his stripping roll as close as possible to the traveling lattice, taking into consideration, of course, the desired weight of lap on the breaker. This procedure would tend to promote the opening process, thus reducing the amount of lumps in the lap. Keeping a uniform amount of cotton in the hopper feed of the breaker picker aids in producing an even lap, uniform in weight.

I have found that too great a variation in the weight of breaker laps often is responsible for difficulty in producing even finisher laps. As a result of this undue variation in weight of breaker laps, the finisher evener motion tends to remain much of the time at either one or the other end of the cone depending upon whether the laps are too heavy or too light. Whichever case prevails, the evener motion can work only in one direction, namely toward the other end of the cone. This makes it impossible to produce a uniform finisher lap. When the proper weights are being fed, the cone belt should work near the center of the cone. Such a condition enables the evener motion to work properly and to deliver uniform laps of correct weight.

If the inquirer will check the mechanical condition of his pickers, and examine the various machines to see that he has a good air current and that the evener motion is working properly, he should experience little difficulty in producing uniform laps of 1 3/16-inch cotton using an organization similar to the one given.

CONTRIBUTOR No. 5076.

"Laundry" Gets After "Wash"

This discussion is getting livelier and livelier. Which side are you on in it?

EDITOR COTTON:

Reviewing the discussion on carding between "KY. (MASS.)" and "WASH (R. I.)," which has been appearing in "HOW OTHER MEN MANAGE" since last October, may I make the following comments:

First of all, I should advise "KY." not to get too much excited over what "WASH" says, because although he infers that he voices the opinion, knowledge and experience of *all practical men*, and machinery builders, there are some who don't believe it.

As for "WASH'S" definition of a light or heavy feed, in the April issue, page 559, he says, "a heavy feed means a heavy sheet of lap and a light feed means a light sheet of lap to any practical man." I wish to differ with "WASH" on this point and agree with "KY". A heavy feed, in my opinion, is one which feeds a lot of cotton in a certain time. This may be accomplished by feeding a heavy lap at slow speed or a light lap at a fast speed, which will feed the same bulk in during the same length of time.

In regard to the merits or demerits of long draft on cards, there have been many tests made along this line which proved that under certain conditions the resulting yarn did not suffer much. How can "WASH" be so cock-sure about the disadvantages of long draft on a card? Surely not by merely explaining, as he did in the October issue last year, that the licker-in robs the fibers of their waxy walls due to the fact that it works too long a time on them with long draft!

In the April issue, again, "WASH" says, on page 559 and page 561: "All practical men know that the proper surface velocity speeds of the cotton card are 1,000 feet per minute for the licker-in, and 2,200 feet per minute for the cylinder." Those speeds are approximately standard for the machinery builders who furnish machinery for average conditions. However, does the licker-in treat 1-inch fibers more severely when the speed is increased 25 per cent than it would on 1½-inch fibers at standard speed? Is an increase of 50 per cent in the length of the fibers sufficient to cause the licker-in to rob the fibers of their waxy walls, as "WASH" says, and if it does, where does the wax go?

After explaining, in the April issue, the proper speeds of the card, and telling us what a bad actor the licker-in is, unless the fibers are presented to it at a fast speed (no mention is made of course of the amount of cleaning necessary), he says, on page 561: "On account of the foregoing, the machinery builders have adopted the following rule, which holds good for all classes of work: The more rapidly work can be run on the card, consistent with the quality or grade of work required, the stronger will be the yarn." This is true, and is not necessarily the rule of machine builders. Anyone who has had connections with carding naturally holds the opinion that the danger of breaking the fibers is ever-present in the card where the fibers come under the action of the licker-in, cylinder, flat and doffer wires, in a matted condition, to be straightened; the fact remains, however, that carding must be done and that parallelizing is only one of the four objects of carding.

These four objects of carding may be briefly described as follows:

1. The separation of the bunches of fibers into individual fibers.
2. The commencement of the parallelization of the fibers.
3. The removal of dirt, particularly the smaller and lighter impurities that the picker did not have sufficiently delicate action to remove.
4. The reduction of the size of the lap into size of sliver.

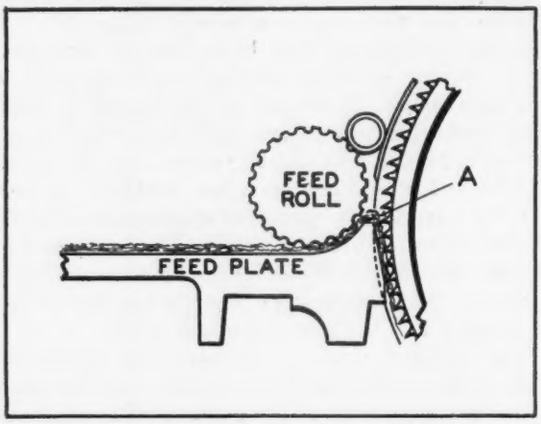
The amount of cleaning necessary on the card depends upon two conditions; one is the cleanliness of the finished yarn or cloth required, the other is the amount of that particular kind of dirt present in the finisher lap which was not removed by the picker.

To obtain a cleaner web at the card more cleaning by the licker-in is required, and to do this we have at least two methods to choose from. One is to increase the draft by slowing down the speed of the feed roll, thereby allowing more time for the licker-in to act on the fringe of cotton. The other is to leave all drafts the same but increase the speed of the licker in. In picker-room parlance, both of these methods will increase the blows per inch of feed, the result of which will be more droppings. The feed plate setting, of course, plays an important role as to the amount of cleaning done.

Whether one should choose the higher licker-in speed method in preference to the long draft to obtain more cleaning, depends largely on the thickness of the lap and the cotton used. Some cotton is naturally more fluffy than others and makes a thicker lap for the same weight. The thickness of the lap should be so proportioned that the licker-in teeth will not bottom on the fringe at the feed plate; on the other hand, the licker-in teeth should not be so far away from the plate that the teeth will just skim the surface fibers. Some carders prefer a heavy lap because it is thought that it is more uniform than a light one. Personally, I have never found heavy laps to be much different in evenness except that the thin places are not so conspicuous on a heavy lap as they are on light ones.

Still another condition which must be guarded against regarding thick laps is the fact that the feed roll loses its grip on the top fibers of the lap almost before the licker-in has had time to work on them. See sketch at point *A*. This condition also causes the fibers to be pulled away in clusters and causes cloudy webs.

In another paragraph of the April issue, page 561, "WASH" says in part, "Therefore, the amount of fibers presented to the licker-in is determined by the weight of the sheet of lap, by the speed of the feed roll, and by the speed of the doffer." I do not quite understand this, and wish he would explain what function the speed of the doffer plays in presenting fibers to the licker-in; could it be that he makes laps on cards from sliver?



"WASH" accuses "KY" of not being a thinker, then he goes on to say that "short drafts in the picker-room mean a slow revolving feed roll." Statements like this prove to me that if "WASH" is a thinker his thoughts are pretty well scrambled.

"WASH" tries to ridicule "KY" for mentioning the stretch, or draft, between the lap roll and feed roll by saying that in all his mill experience he never heard of it. There are many other carders who never heard of it too, but they know it is there simply because it is, and are not waiting for other practical men or machinery builders to tell them about it.

Another place where "WASH" does not know that there is, or should be, a small amount of draft, is between the front roll and calender roll of a drawing frame equipped with leather top rolls. Back in the May, 1930, issue, on page 794, "WASH," writing on another matter, said:

"To prove that the foregoing should be carefully considered [he was referring to something that required no figures to prove it] I will give the following draft, which is the draft between the front rolls and calender rolls—the figures are taken from a builder's catalog: $16 \times 30 \times 24 \div 24 \times 45 \times 11 = .959$"—which is less than 1. Being very much surprised at reading something so contrary to general practice I investigated in my copy of the same catalog only to find it was a false alarm. The book gives 31 to 33 tooth tension gear, and not 30 as given by "WASH." With the smallest gear the draft would be 1.002 instead of .969. It is a small numerical difference, to be sure, but what a whale of a difference in practicability.

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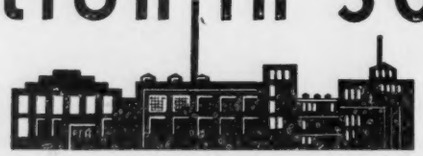

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THE BEDAUX PRINCIPLE DEALS WITH THE HUMAN ELEMENT ALONE

There's a Difference Between "Regain" and "Moisture Content."

A very clear explanation which will correct a common misunderstanding about these very important terms in textile mill work.

EDITOR COTTON:

There seems to be a very widespread misunderstanding of the terms "moisture regain", "moisture content", and "bone dry". I have talked with any number of generally well informed men who did not know that there was any difference between moisture content and moisture regain, and used the terms indiscriminately. Furthermore, I have found a good deal of difficulty in explaining the distinction between these terms to some persons.

I have also had several superintendents tell me that they ran their picker rooms and card rooms "bone dry". Of course, such a statement is the height of absurdity, yet it was made seriously by men who should have been better posted.

By "bone dry" is meant absolute dryness, with no moisture whatever present. This condition can be obtained only by heating material to a temperature of more than 212 degrees Fahrenheit, or by removing moisture from the air surrounding the material through chemical means. When the gentleman spoke of running his card room bone dry, what he really meant was that he ran it without artificial humidity, and simply took the weather as it came. This would make his room pretty dry at times, but it would be almost impossible to dry it to the point where his work would have less than 3 per cent of moisture regain. Bone dryness is entirely out of the question.

The distinction between "moisture regain" and "moisture content" is quite simple. "Moisture content" expresses that quantity of moisture in the material as a percentage of the total weight of the material and the moisture. "Moisture regain" expresses the quantity of moisture as a percentage of the bone dry weight of the material. The advantage of using regain percentage, lies in the fact that the bone dry weight of any particular piece of material is a constant, regardless of the varying amounts of moisture it may contain at different times. Therefore, in determining the percentage of moisture regain in a material, we are dividing the amount of moisture by a fixed and unvarying quantity. In determining the amount of moisture content, our divisor is a constantly changing quantity.

For example: suppose we take a piece of cloth that weighs 108 grains, and upon drying it find that it now weighs 100 grains. It therefore has a moisture regain of 8 per cent, as we divide by 100 to find the percentage of regain. The moisture content, however, is 7.41 per cent, as 108 is the divisor. If the material is again exposed to the air after being dried, and regains moisture until its weight is 107 grains, its percentage of regain is 7 per cent, as we use the same divisor of 100. The percentage of moisture content, however, is 6.54 per cent, as we have a new divisor: 107.

In using the expression "moisture regain" we are defining the percentage of increase in the actual weight of the material due to moisture absorption. This is a much more definite thing than expressing the percentage of moisture in terms of the actual weight of the material plus the water.

Expressing it algebraically, let w equal the bone dry weight of the material, and W equal the weight of the material with the moisture in it. The amount of moisture in the material is then $W\text{-}w$. The percentage of moisture regain in the material is expressed as $\frac{100\ (W\text{-}w)}{w}$, while the percentage of moisture content is expressed as $\frac{100\ (W\text{-}w)}{W}$. W is a variable quantity while w is a fixed quantity, so that for any value of $W\text{-}w$, we use a constant divisor in determining regain, and a constantly varying divisor in determining moisture content.

The term "regain" has almost entirely superseded "content", and should be thoroughly understood by everyone who deals with textile materials, as a confusion of the terms will lead to many misunderstandings.

CONTRIBUTOR No. 5072.

Further Comments on Traveler and Spindle As to Speed and Twist.

This man says the traveler moves the fastest when the bobbin is full.

EDITOR COTTON:

The following questions, and answers to these questions, have appeared in COTTON from time to time: "Which puts twist in the yarn, the traveler or the spindle? When does the traveler move the fastest, when the bobbin is empty or full?" It is easy for me to understand how the first one is a debatable question, but I can see no reason why the last one cannot be proven conclusively.

Let us assume an empty bobbin of ⅞-inch diameter; a full bobbin of 2 inches in diameter; a delivery of the front roll of 365 inches; and a speed of the spindles of 9,000 r.p.m.

Now to find the speed of the traveler and the twist when winding on an empty bobbin:

$\frac{365}{⅞ \times 3.1416} = 132$, which is the number of r.p.m. the traveler must lag behind the spindle to enable the bobbin to wind up the delivery of the front roll.

This of course gives 9,000 — 132 = 8868 r.p.m. as the speed of the traveler when the bobbin is empty. This in turn gives 8,868 ÷ 365 = 24.29, which is the twist per inch based on the traveler speed.

Using the same formulas to find the traveler speed and twist when winding on a full bobbin, we have:

$\frac{365}{2 \times 3.1416} = 58$, the number of r.p.m. it will be necessary for the traveler to lag behind the spindle speed for the bobbin to wind on the delivery of the front roll.

We then obtain 9000 — 58 = 8942 r.p.m. as the speed of the traveler when the bobbin is full. This gives us a twist, based upon the traveler speed, of 8942 ÷ 365 = 25.11 turns of twist per inch when the

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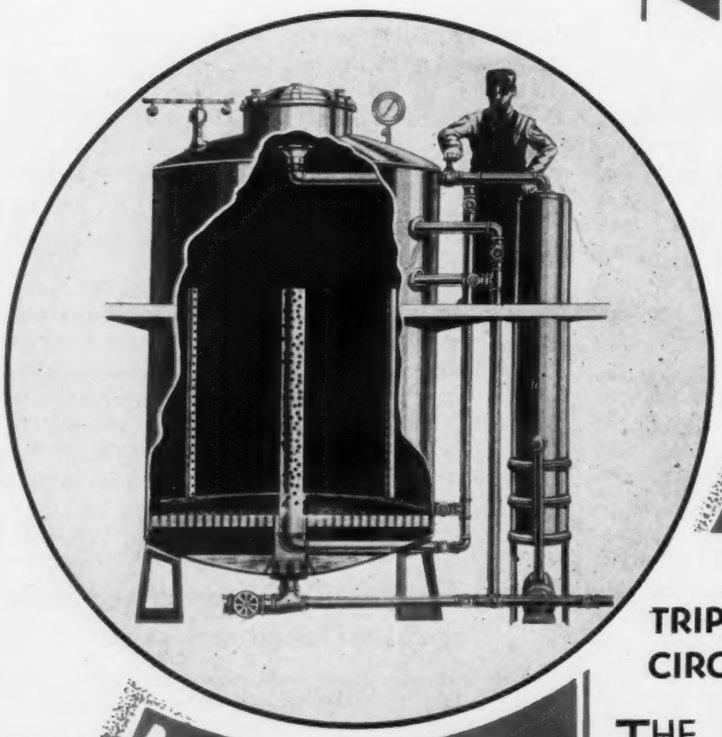

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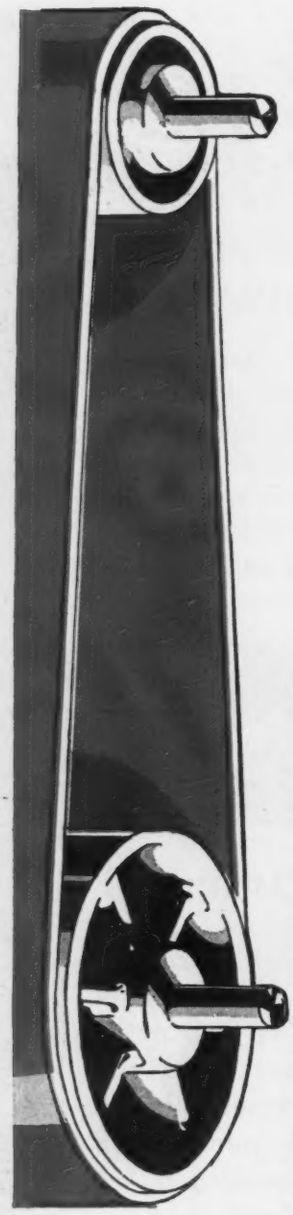

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bobbin is full.

This gives a difference in twist when the bobbin is empty and when it is full of 25.11 — 24.29 = .82 turns, or about 3 1/3 per cent.

The speed of the traveler determines the amount of twist put in the yarn, but since the difference in the speed of the spindle and the speed of the traveler is so slight, and this difference is also just about compensated for in the contraction which takes place in the yarn while twisting, we calculate the twist from the spindle speed rather than from the traveler speed.

I feel that I have at least shown that the traveler moves the fastest when the bobbin is full.

A. L. E. (S. C.)

"Our Organization"

A great deal of mutual benefit can be created by giving workers the proper attitude.

EDITOR COTTON:

I received some food for thought a few days ago while talking to a young man, using as our subject, "Our Organization."

I explained to him the best I could just what our firm is up against, as relates to the selling end of the business. I reminded him that the management of the mill had always had our interest at heart and had always paid far better than average wages. I asked him if they knew why they had been able to do this. He didn't know. I pointed out that first our mill was headed by a group of very smart business men. They had been farsighted enough to see the truth in the saying, "United we stand, divided we fall." They went to work years ago and won the confidence of the people working for them, instilling in them the thought that they had their interest at heart. Such as this will create a sense of loyalty between employer and employee which cannot be shaken.

Such a condition created by an employer will serve him just as an extra can of gasoline would on a lonely road at night if his motor started sputtering and stopped for lack of fuel. He would be able to fall back on his reserve supply and continue on his way.

I pointed out to this friend of mine that the mills that had treated their people just as so many machines, and had failed to build up the proper organization by creating a spirit of loyalty, were the ones that are now floundering around without any reserve supply to draw upon.

I asked this young man if he had ever given any particular thought to what the proper relationship between the firm and himself might some day do for him. If you are loyal to your firm at all times, they will be loyal when it means most to you, I told him. If conditions arise which force them to lay off a portion of their help, you may be sure it will be those whose worth has not been proven; those who would stay on the mill's pay roll, yet do things which might prove detrimental to the firm, that will be the first ones that are turned loose. There is no place in the textile industry for this type of person, therefore, such a person is always transient. Just as quickly as they are found out, they are put out.

All mills like to select their second hands, over-

Amalie Sulpho-Textol-Oil

An Achievement of Our Research Laboratory

An entirely new type of strictly U. S. P. No. 1 double sulphonated castor oil. Produced in the 50% and 75% grades.

Embracing vital improvements in sulphonation.

In the preliminary development of SULPHO TEXTOL OIL, pure U. S. P. Castor Oil and iron-free acids are used. This insures a finished product exceptionally light in color, and the entire elimination of effects of iron salts on the shades when used in the dyebath.

In view of an entirely new method of chemical control in processing U. S. P. No. 1 castor oil, used exclusively in the development of SULPHO TEXTOL OIL, a finished product is obtained that is exceedingly light in color, coupled with a high degree of sulphonation. SULPHO TEXTOL OIL is, therefore, free of any mineral acid or inorganic material such as Glauber's salt.

In SULPHO TEXTOL OIL, the glycerine content is held definitely intact—thus the invaluable properties of the original castor oil are retained. This is a positive contribution toward enhancing the softness of the fabric, and benefiting materially the entire finishing process.

Installed in the foremost dyehouses of the country where unusual precaution is taken in selecting the best! SULPHO TEXTOL OIL is specified and used because it is uniformly superior.

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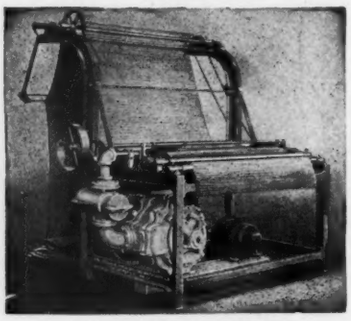
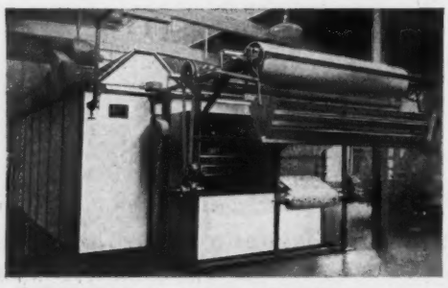
in range with

"Hurricane" Automatic Loop Dryer



"Hurricane" Vacuum Extractor



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MANY materials such as rayon crepes and washed prints should be processed in full open width to *avoid* the formation of wrinkles and creases to secure greater uniformity in treatment. Modern mills are realizing these advantages by operating continuous washing equipment in range with "Hurricane" Vacuum Extractors and "Hurricane" Loop Dryers.

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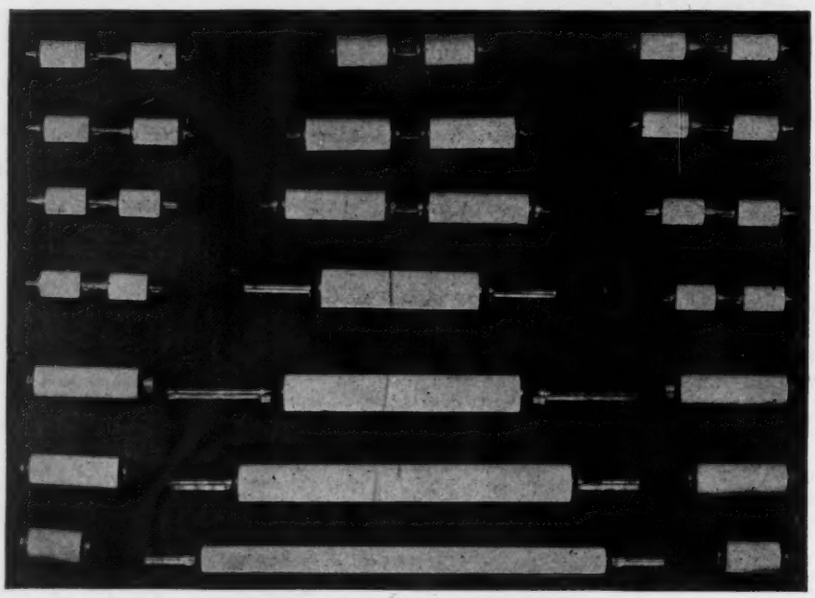

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seers and superintendents from the ranks. In this way they get men whom they have trained, and who are familiar with the mill's policy.

The young man then said, "there are some thoughts that I can't seem to connect properly. How is it that with the great organization which you say our firm has built up, and the spirit of loyalty which you say exists, our warehouses are nearly filled with cloth which they are having difficulty in selling?" I explained that this was a general condition, being by no means of a local nature. There has been a period of general depression throughout the country in the textile industry for more than two years. Just how well the different mills have been able to weather this condition has depended largely upon the spirit of loyalty they have been able to build up in their organizations.

Many mills today are forced to sell their product at a loss in order to satisfy their creditors. Perhaps, I said to my friend, "you will be glad to learn that we have no creditors. No one dictates to our officials. If they decide to store their product rather than sell, they are in a position to do so. If all mills were in a similar position, it would do much toward stabilizing the cloth market."

The young man thought for awhile, then said, "well, you have certainly given me something to think about. It is a real pleasure to be employed by a firm such as ours, and I shall work always with their best interest foremost in mind."

As we said good-night I went my way thinking that while I had given him some food for thought, I too had found a thought. How many people (especially young people) work day after day without knowing what it's all about? Should not we who have some insight into what the mills are going through, take a little time and try to turn the trend of their thoughts into the right channel?

CONTRIBUTOR NO. 4986.

Points for an Overseer.

EDITOR COTTON:

Good true encouragement is a good thing for overseers and superintendents to hand out to their help, but they should never offer any false encouragement. Courtesy is a good thing to use in the management of help and it pays the overseer to have a good supply of it in his make-up, but no man has ever made a success of a job where he obtained the good will of his help by lying to them.

If the good will of employees is obtained by employers they will extend themselves to the limit to give their hearty co-operation, but if employers have the ill will of the workers, then look out! The only way for the boss to be sure of having the good will of his fellow workers is for him to treat them just as he would want to be treated if he were in their place. I think that an overseer should treat an operative just as kindly in firing him as in hiring him. Kindness is a sure cure for many evils, and all executives should remember that a smile and a kind word will many times make a life long friend.

No overseer should ever get the idea that he is the one essential being in the organization. He

Again

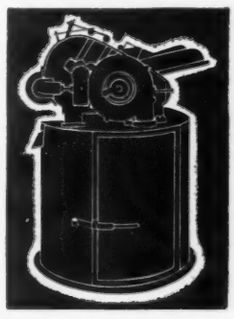
TERMACO RADICALLY CUTS LABOR COST

$717.50 per year is reported by the Exposition Cotton Mills as the saving in labor effected by the Termaco Roving Bobbin Cleaner.

While this amount is substantial in itself, the Exposition Cotton Mills report further savings in that waste is reworked by the Termaco at no added cost and there are reductions of 175 pounds in roving waste per week and 15% in scavenger waste.

The complete report of the Exposition Mills, together with reports from various sizes of mills in different sections of the country, have been put into looseleaf book form.

If your mill has roving bobbins to clean, send for a complimentary copy of the book, "Termaco Facts," today. You will find it of special interest in regard to how mills are substantially cutting operating costs.



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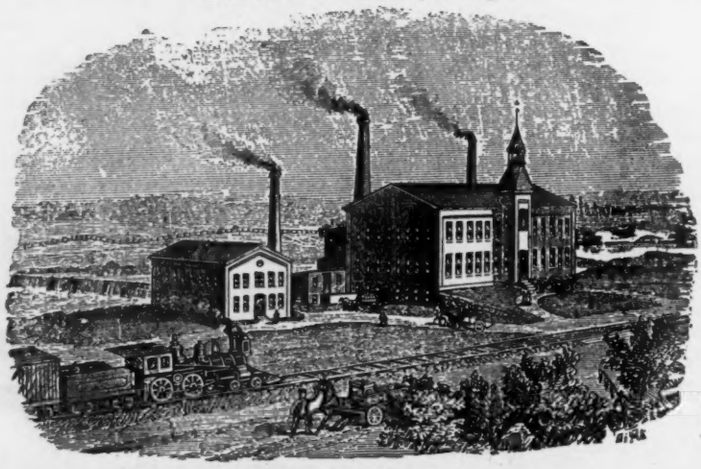

MILLS
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ESTABLISHED 1831

should remember that the mill ran pretty good before he ever became connected with the organization and the chances are that it would run pretty good if he left. No mill has ever had to shut down because an overseer quit.

The successful overseer is the one who can get of the best learned overseers in the business today his help to really put out, yet do it with a smile. Some can't hold a job because they haven't learned how to manage help, which is the most valuable asset an overseer can have. Some overseers will hold grudges against their help and this is one of the shortest cuts I know to failure.

Instead of abiding by one of the good Ten Commandments, "Do unto others as you would have them do unto you," many overseers that I know seem to feel that it is the best policy to do others before they have a chance to do you. Naturally these overseers will remain overseers a long time—that is, if they are lucky.

J. T. D. (MISS.)

Means of Preventing Warps from Sticking to Slasher Cylinders.

EDITOR COTTON:

The question, "What causes warps to stick to slasher cylinders?", which appeared in a recent issue of COTTON, is one that has caused many of us to feel at times that there really is no justice. There are times when we are getting our warps off, slashed just as we would have them, when all of a sudden, for no apparent reason at all, we run into all kinds of trouble due to the warps sticking.

I believe that the one big reason for warps sticking to the cylinder of a slasher is trying to run the warps too fast. This causes the warps to pass over the cylinder without being dried properly, and if they are allowed to do this, sticking is the inevitable result.

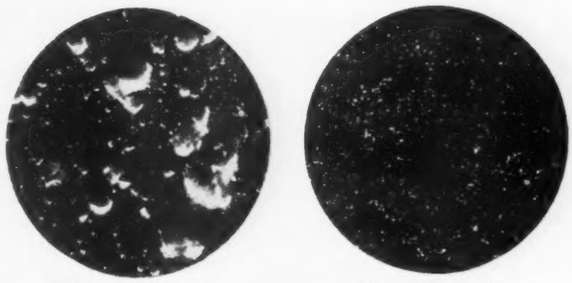
Passing the warps over the cylinder too fast not only reduces the chance of their being dried properly due to the fact that they do not remain in contact with the cylinder long enough to be dried as they should, but it cools the cylinder to such an extent that the heat to dry the yarn is not sufficient. Naturally the more yarn that passes over the cylinder during a given period of time, the more heat that will be taken from it.

A second reason for warps sticking to the cylinder may be due to the traps not working correctly. If this condition exists, too much water will form in the cylinder, which will have a tendency to cool them. These traps should be looked after, and checked very often.

Another cause is the failure to use enough fat. So many will change starches and use the same amount of compound. This is absolutely the wrong thing to do. A potato starch will require one amount of compound, while a corn starch will require another, and if strict attention is not given to the proper amount of compound to use with the different starches, warps sticking to the cylinder will be the penalty.

CONTRIBUTOR No. 5014.

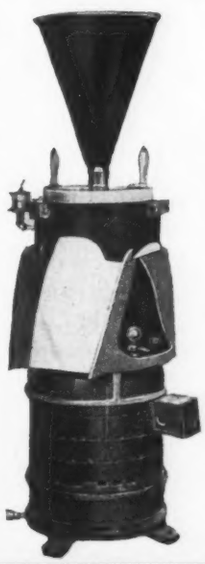
Here is a condition that accounts for many a dyeing failure!



Before Processing *After Processing*

EXPERIENCE has shown that most failures in textile dyeing are due to bad dispersion of the vat colors. The two micro-photographs above show the difference between an ordinary sample of pigment, and the same pigment after processing in the Premier Mill. Bad mixing in its initial manufacture, or long standing prior to use, will cause re-agglomeration. You know what sort of a result this is going to give in your textile dyeing.

Why continue to take a chance on this? The Premier Colloid Mill offers a simple and efficient method of color mixing. Positive adjustment to fine limits of the clearance between rotor and stator assures an output of paste that you can rely on to be of uniform consistency and that will not re-agglomerate.



It will pay you to investigate the Premier Colloid Mill and its application to the color mixing problems of the textile industry.

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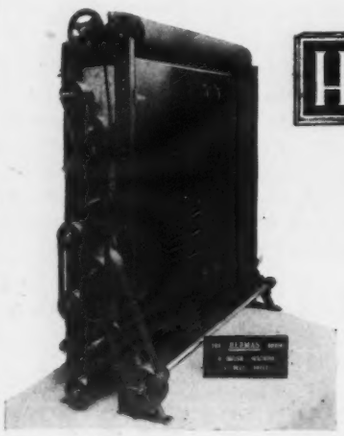

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Comments on Past Articles.

We believe you will enjoy this man's comments upon several articles that have appeared in the magazine.

EDITOR COTTON:

If you will allow me, I would like to pass comment upon several of the articles that I have noted from time to time, and also answer a few of the questions that have appeared in the magazine.

In the October 1930 issue of COTTON, "CONTRIBUTOR NO. 4838" wanted to know how to get cleaner laps. He wanted to do this without any opening equipment. He gave his fan speeds as, 1,150 r.p.m. for the first fan on the breaker and 1,150 r.p.m. as the speed of the second fan on the breaker; 1,150 r.p.m., as the speed of the fan on the intermediate picker and 1000 r.p.m. on the finisher picker. I do not consider the fan speeds as of major importance, but it is possible for them to be too high and bring dirt along with them. It may be that our contributor's grid bars should be opened to allow the dirt to fall through, or that his beater blades are dull and do not strike a good sharp blow. His setting between the feed roll and beater blade may be too close on the plain beaters. With the Kirshner beater we may set as close as possible and get good results.

"H. F. (N. C.)" stated in some past issue that he was having trouble with good waste going into the dust room. It may be that his cages have holes in them; that is, damaged places that have not been properly repaired. There may be leaks around the ends of the cages, or the wire on the cage may not be of the right mesh.

In the May 1930 issue "CONTRIBUTOR NO. 4726" stated that he was having trouble with hard ends on intermediates. He said that he runs 15/16-inch cotton and sets his steel rollers 1 1/16-inch. There are two things that could be causing this trouble, the first of which is mixed staple. A setting of 1 1/16 inch should handle 15/16-inch cotton under ordinary conditions, providing the top rolls are also set at 1 1/16-inch. Sometimes the top rolls are set closer than this, so the true setting will not be 1 1/16-inch. This should be looked into.

The other cause might be due to improper twist. A standard of 1.2 is high for slubber roving of this staple, but sometimes the character of the cotton is such that a lower constant multiplier can be used to a great advantage. If the traverse for the roving is not working the rolls become grooved, and this will also cause uneven drawing and hard ends.

Tell "OLD-TIMER" to start rambling again, for those rambling thoughts in the January number were great.

I would like to try to answer some of the questions asked by "T. R. (N. C.)" in the January number. His first question was, "Why are the cones of a fly frame convex and concave?"

First of all, the purpose of the cones is to regulate the speed of the bobbin to conform with the inches being delivered. The inches delivered per minute are the same throughout, but the diameter of the bobbin changes with every lay or traverse of the rail, so the cone belt must move to a diameter that will drive the bobbin at the correct winding or surface speed for the

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diameter at that point. If the cones were of equal taper, the speeds would not be correct. The top cone is concave and the bottom is convex. These are arranged by the machinery engineers who make a special study of their particular frame and the cones are shaped to conform with their winding.

His second question was, "How is the production constant for a card found?" In finding a production constant for a card, (1) is substituted for the following items: r.p.m. of coiler calender roll, diameter of coiler calender roll and weight per yard of sliver.

The equation to find the production constant for a 50 hour run and 100 per cent production would be:

$$\frac{1 \times 1 \times 3.1416 \times 60 \times 50 \times 1}{36 \times 7000} = .037$$

Then the constant multiplied by the r.p.m of the calender roll times the diameter of the roll times the weight of the sliver times the allowance for loss of time will give the actual production for 50 hours.

I have given the coiler roll as the place for obtaining the speed; this is where it should be found for true accuracy, but the majority of carders and mill men use the doffer as the production point. This is because it is much more convenient. When using the doffer, the diameter listed is always for the bare doffer, so it is then necessary to add ¾-inch to allow for the additional diameter due to the clothing.

Question No. 3 was, "How is the production constant for a fly frame found?" Here, the numeral (1) is substituted for the r.p.m. of the front roll, the diameter of the front roll and the hank roving. We then have the equation:

$$\frac{1 \times 1 \times 3.1416 \times 60 \times 50}{36 \times 840 \times 1} = .3117 \text{ production constant.}$$

The constant multiplied by the r.p.m. of the front rolls times the diameter of the rolls times the allowance for loss of time divided by hank roving will give the actual production.

Question No. 4 read, "Does sliver receive any twist from the rotation of the tube gear of a coiler on a card?"

From watching the coiler operate we would assume that twist was being put in the sliver, but by stopping the card and then taking the sliver up for examination we see that there is no twist in it.

The fifth question was, "Why isn't it possible to use a 10-inch tube gear for a 12-inch can?"

When we are putting sliver into a can we must put it in so that there will be no obstruction or interference in the leading from the can at the next process. A 10-inch tube will not give enough circle for a 12-inch can. To properly coil the sliver it has to touch the can on one side and make a sweep just beyond the center so that it would be possible to put a stick down through the center without breaking any of the strands.

Question No. 6 was, "How does changing the stripper plate of a card regulate the strippings?"

During the operation of a card there is quite a velocity of air created by the cylinder through centrifugal action. Let us assume that the stripping plate is set to the cylinder to a 19 gauge and this leaves an opening of ⅜-inch between the flats and

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LAMBETH
spinning & twisting
TAPES

THE proper measure of Spinning and Twisting Tape value in a textile mill is based on ultimate cost—not first cost. Lambeth Tapes are not the "cheapest," but in the final accounting will be found to have saved you money from the start—on power, on upkeep, in freedom from trouble, and by remarkably long life.
Write for samples and prices.

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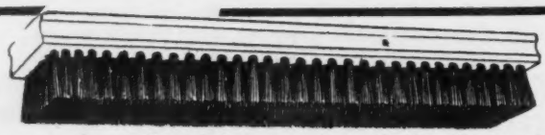
ALL STEEL
ECONOMY
FIRE PROOF
BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
ECONOMY BALER CO., DEPT. C, ANN ARBOR, MICH., U. S. A.

GASTONIA



In the repairing of rolls only the best of raw stock is used. Longer service assured. Wooden cores replaced.

First choice among those textile mill men who seek efficiency and long life in brushes. Gastonia pledges a degree of service commensurate with your highest requirements. Write for catalog and prices.
GASTONIA BRUSH CO., GASTONIA, N. C.

BRUSHES

Repair Headquarters for
STEEL ROLLS
SPINDLES
FLYERS

A Specialty of
METALLIC DRAWING ROLLS
OVERHAULING
MOVING
and ERECTING

New Developments in Repairing Steel Rolls . . . . .

You can now have case-hardened necks without case-hardened squares, reducing to a minimum the wear on female squares which has heretofore been the objectionable feature in case-hardened steel rolls. Our new method of refluting eliminates thread laps. Another feature, now being widely approved, is the exact straightness of our rolls. Give us a trial. We furnish extra rolls without charge.

IDEAL MACHINE CO.
BESSEMER CITY, N. C.

THE COMPLETE SERVICE YOU'VE BEEN LOOKING FOR

At last you can get complete service on the rebuilding of Card Screens, Picker Screens and Spinning Frame Cylinders from a company fully equipped to do the work. As the only company fully equipped to do this type of work in the South, it is considered the fulfillment of a long-felt need by leaders in the textile industry. Write for information.

GASTONIA TEXTILE SHEET METAL WORKS
222 E. Long St. Gastonia, N. C.

Rebuilding Service PICKER SCREENS · CARD SCREENS and SPINNING FRAME CYLINDERS

Repair Service on
STEEL ROLLS—SPINDLES—FLYERS

A Service of Economy - -

Because the nearness of our plant to you means low freight rates, because the work turned out by us is of lasting quality, because it eliminates the cost of new units—this Gastonia service is the last word in economy. Write for quotations.

GASTONIA ROLLER, FLYER & SPINDLE CO.
GASTONIA, N. C.

Prevent Glare and Heat by Coating Your Windows with
SKYCO NoGlare
Write for free sample
THE SKYBRYTE CO.
1919 East 19th St. Cleveland, Ohio

BARKLEY MACHINE WORKS
MANUFACTURERS OF TEXTILE MACHINERY PARTS
Cut Gears—Cast Tooth Gears
Parts for Kitson Pickers, Nasmith Combers, Whitin Combers. General Textile Repairs.
GASTONIA, NORTH CAROLINA

Textile Development Company

PRACTICAL MILL CONSULTANTS
The Textile Development Co.
Sidney S. Paine, *President*
80 Federal St., Boston, Mass.
1001 Jefferson Standard Bldg., Greensboro, N. C.

PATENTS
PAUL B. EATON
Registered Patent Attorney, 1408-C, Johnston Bldg.
CHARLOTTE, NORTH CAROLINA
A former member of the Examining Corps
United States Patent Office
Also: 1389 PRESS BLDG., WASHINGTON, D. C.

the outside of the stripping plate. This space allows the air to be drawn in at this point and as it enters it will keep the fibers upon the cyinder and the flat strips will be light. Now let us set the stripping plate away from the cylinder enough to close up this opening between the plate and the flats, having less space here will not allow as much air to enter at this point and the fibers will cling more to the flats and the result will be a heavier flat strip.

Question No. 7, "When adjusting the step of a spindle does it raise or lower the spindle?"

Some steps are on adjustable screws and are raised or lowered according to the direction in which the screw is turned.

There is a very bad feature of adjustable steps, which would cause me to decide against them. This is that when you lower or raise the step the top of the spindle must also be higher or lower than the others, and this, especially on speeders, would cause trouble in the adjustment of the pressers on flyers.

His last question was, "Is there any chance of a coiler making a different weight of card sliver from another coiler with the same draft gear and the same weight of lap on each card?" Yes, because of the wearing of the trumpet in the coiler head,. If these are not all the same diameter, the sliver will vary.

CARDER (MASS.)

What Makes a Good Overseer?

EDITOR COTTON:

We hear quite a great deal now-a-days about different overseers, that is, that Mr. So-and-so is a mighty good carder, or that Mr. So-and-so is a mighty good spinner.

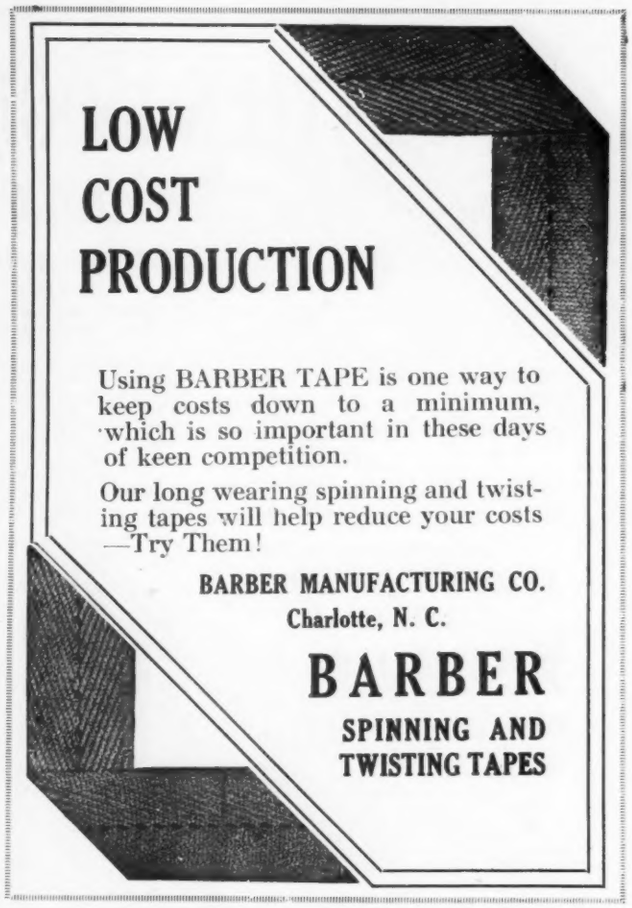
What does it take to make a good overseer? There are many things. First, he should be a man of good horse sense, one who understands human nature, because no two men are built alike, and he must study human nature so that he may know how to approach an operative.

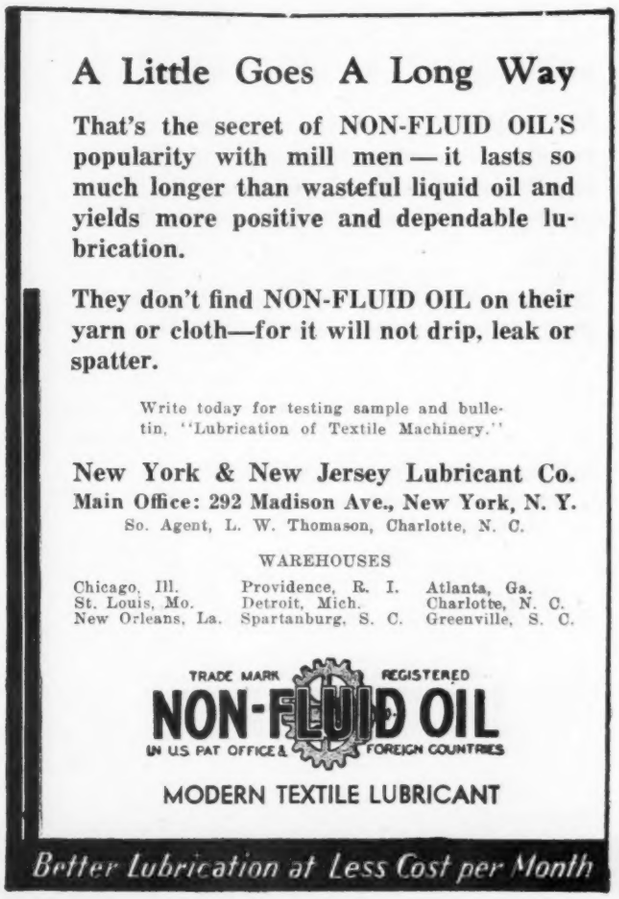
He also has got to have training, and when I say training I mean from the ground floor up. He should understand every machine in his care, so that he may know that these machines are getting the proper attention, and if they are not, he should know why.

An overseer should treat everyone fairly and squarely, and then look to them to do the same thing. He should follow the Golden Rule and he should have the welfare of his company also his operatives at heart.

He should keep moving and be on the lookout for things. He should keep the job in front of him and also run his job and not let the job run him. He should make the job the apple of his eye. He should be a man who does things, not a man who has to be told to do things. He should watch his job with the eye of an eagle, and never ask a fellow to do a thing that he would not be willing to do himself under the circumstances. He should say "*Come* on, boys" and not "*Go* to it, boys," and no matter how small or large the job, he should always be there.

Let me repeat, *he* should keep after his job and not let the job get after *him*. T. H. (N. C.)


LOW
COST
PRODUCTION
Using BARBER TAPE is one way to keep costs down to a minimum, which is so important in these days of keen competition.
Our long wearing spinning and twisting tapes will help reduce your costs —Try Them!
BARBER MANUFACTURING CO.
Charlotte, N. C.
BARBER
SPINNING AND
TWISTING TAPES


A Little Goes A Long Way
That's the secret of NON-FLUID OIL'S popularity with mill men — it lasts so much longer than wasteful liquid oil and yields more positive and dependable lubrication.
They don't find NON-FLUID OIL on their yarn or cloth—for it will not drip, leak or spatter.
Write today for testing sample and bulletin, "Lubrication of Textile Machinery."
New York & New Jersey Lubricant Co.
Main Office: 292 Madison Ave., New York, N. Y.
So. Agent, L. W. Thomason, Charlotte, N. C.
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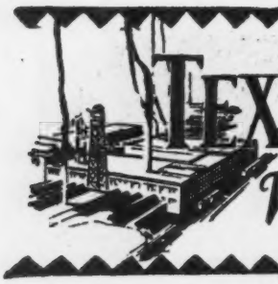
TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT OFFICE & FOREIGN COUNTRIES
MODERN TEXTILE LUBRICANT
Better Lubrication at Less Cost per Month



TEXTILE BOOKLETS *Worth Writing For!*

The booklets or catalogs briefly mentioned below may be obtained by any reader of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.

1. Cotton Picking, Carding and Spinning—Covered by three different catalogs. Picking catalog covers Opening and Picking Machinery; Card Room catalog covers Cards, Combers and Roving Frames; Yarn Machinery catalog covers Spinning, Twisting, Spooling, Quilling and Reeling. By Whitin Machine Works, Whitinsville, Mass.

2. Pepperell Equipment—10 page illustrated booklet, showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments. Installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

3. Modern Practice in Textile Wet Finishing (Slack Loop System)—Practical discussions, various methods bleaching, covering batch, semi-continuous, fully continuous for cotton, rayons and mixtures. Request must be on mill letterhead. By Rodney Hunt Machine Co., Orange, Mass.

4. New Methods of Opening Cotton, also "Brown" Automatic Mixing and Cleaning Distributor—Illustrated booklets showing advantages of Centrif-Air Cotton Cleaning System. Pamphlets also on better picking and carding and pneumatic trunk line cleaner. Issued by Centrif-Air Machine Company, Atlanta, Ga.

5. "Textile Brushes"—10 page booklet illustrating brushes for cleaning every part of mill. By Gastonia Brush Co., Gastonia, N. C.

10. Leathers, Textile—Booklet No. 101, 48 pages. Illustrated. Showing BONDARON Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

11. Whitinsville Rings—16 page illustrated booklet. Describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

12-A—Instruction Manual for Type K Bobbin Cleaner. Also **Instruction Manual for Utsman Bobbin Cleaner**—two separate booklets describing adjustments of machines outlined, and also describing effect of bobbin shapes upon the cleaning process. These booklets intended for users of machines outlined. Applicants should designate which booklet is desired. By the Terrell Machine Company, Charlotte, N. C.

12-B—Instruction Manual for the Termaco Roving Bobbin Cleaner—booklet in four sections on adjustment of machine; on how to use machine to best advantage in reducing waste and saving labor; parts catalog; description of new attachments which can be applied to earlier models of the machine. By the Terrell Machine Company, Charlotte, N. C.

13-A—Equipping Modern Textile Plants—Booklet, 35 pages, illustrated. Describes value of Monel Metal equipment in textile plants and presents reports from mill owners and operators on actual experiences; **the Truth**—Reprints of advertisements of equipment, descriptions, etc. Also Dyed in special interest to textile dyers. International Nickel Company, Inc., 67 Wall Street, New York, N. Y.

15. The Powers System of Thermostatic Control—"Slasher Room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co., 2739 Greenview Ave., Chicago, Ill.

17. Arcy—12 page booklet on getting most value from starch in warp sizing and cloth finishing. By Drake Corporation, Norfolk, Va.

18. Popular Industrial Chemistry—162-page handbook for dyers, chemists, finishers, purchasing agents. By Kali Manufacturing Company, 1404 No. Front St., Philadelphia, Pa.

19. Quaker City Chemical Co.—48-page booklet containing useful information, tables, formulae, on dyeing, bleaching and finishing all textiles. Issued by above company, 2736 North Broad Street, Philadelphia, Pa.

20. Bleaching, Dyeing, Finishing and Printing Textile Goods—70-page booklet containing interesting information on faults and methods in finishing goods, useful tables and definitions. By Bosson & Lane, Atlantic, Mass.

21. Warp Sizing and Composition of Cotton—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

22. Tragasol and Its Uses—Booklet, 60 pages, constituents and properties—Dissolving and preparation—sizing and dressing of yarns—cloth finishing—miscellaneous. By John P. Marston Co., 247 Atlantic Ave., Boston, Mass.

23. Practice of Rayon Sizing in American Mills, Raygomm, Lakoo Gum—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

25. "Lupogum" and "Monopole Oil"—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

27. The Seven Factors of Belting Economy—Booklet, 112 pages, illustrated, containing authoritative information on the economical layout, care and operation of belt drives. Chas. A. Schieren Company, 88 Ferry Street, New York City.

28. Akron Belting—Practical rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York and New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

31—Canvas Baskets and Trucks. Doff boxes, trucks and for all textile uses. By Rockwoave Mills, LaGrange, Ga.

38. Sleaziness in Full Fashioned Knitting—Illustrated survey with samples of fabric showing causes of sleaziness, and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machine with general information on subject of full fashioned knitting.)

39. Trend of Sales of Silk, Rayon and Cotton in the Piece Goods Departments; twenty-four-page booklet; prepared by DuPont Rayon Company in conjunction with National Retail Dry Goods Association. Copy furnished without charge by either of above. DuPont Rayon Co., 350 Fifth Ave., New York, N. Y.

41. Budget Control—40-page booklet showing how each part of business budget should be prepared and principles of its effective operation together with a summary of benefits.—by Ernst & Ernst, accountants, 27 Cedar Street, New York, N. Y. (This company also has available booklets on **Standard Costs, Business Control Through Analysis. The Better Wage, Factors to Consider in Working Out Mergers.**)

42. Textiles and the Telephone Typewriter—6 page booklet on telephone typewriter service for communication between mills and selling houses. By American Tel. and Tel. Co., Long Lines Department, Atlanta, Ga.

43. Pornitz Vacuum Bleaching Apparatus—showing the many advantages of this system for bleaching, including the saving of time, saving in chemicals, saving in the transport of material from one apparatus to another, etc. H. H. Leonard, 475 Fifth Ave., New York, N. Y

44. Points of Interest in and Around Atlanta—36 pages. Illustrated, describing places of scenic and historic interest in Atlanta in particular, and the Southeast in general. Atlanta Biltmore Hotel, West Peachtree, Fifth, Sixth & Cypress Sts., Atlanta, Ga.

45. Fidelity Universal Ribbers—a forty-eight page booklet showing the advantages and many styles of ribbed fabric and describing in detail and illustrating the latest developments in ribbers. Sent free on request by Fidelity Machine Co., 3908 Frankford Ave., Philadelphia, Pa.

46. Mundet's New Black Book—Including specifications for the installation of cork pipe covering under various conditions, telling how thick the insulation should be, listing the sundries that are needed with cork pipe covering—showing what to do when pipes are close together, explaining how to order, prices, etc. Copy sent free to anyone interested in cork pipe insulation. L. Mundet and Son, Inc., 461 Eighth Avenue, New York, N. Y.

47 The New Hartmann Spinning Process for Cotton Yarns—showing how with the Hartmann Ring Spinning Frame with combined drafting, it is possible to produce finished yarns in one operation direct from the untwisted sliver of the drawing frame. H. H. Leonard, 475 Fifth Ave., New York, N. Y.

49. Pornitz Hosiery Dyeing Machines—giving details of machine, its many advantages and showing typical installations. H. H. Leonard, 475 Fifth Ave., New York, N. Y.

50. The Effect of Belt Tensions on the Cost of Belting—a 12-page booklet, giving a non-technical explanation of belt tensions, the coefficient of friction of various kinds of belts, the effect of belt tension on belt costs, and the proper care of belting to assure long life and low costs. Sent free on request. Chas. A. Schieren Co., 30 Ferry St, New York, N Y.

51. Pornitz Vacuum Steaming and Conditioning Machines—for fixing the twist in the yarn and restoring to the material the natural degree of moisture which has been lost during the spinning process H. H. Leonard, 475 Fifth Ave., New York, N. Y.

52. The Lincoln Twin Disc Floor Machine—showing the many advantages of clean, sanitary floors, the saving in time and labor through using floor cleaning machines and describing in detail the various models of Lincoln floor machines. Lincoln-Schlueter Floor Machinery Co., 218 W. Grand Ave., Chicago, Ill.

53. Anchor Fencing Service—a 24-page booklet showing various classes and types of chain link and iron fences and gates for industrial purposes. Anchor Post Fence Co., Eastern Ave. and Kane St., Baltimore, Md.

54. Shipper's Handy Helper—A forty-eight page booklet giving valuable information on shipping problems, including suggestions on packing, marking, numbering and invoicing shipments, and describing the principal items generally used in shipping departments. Southern Shippers Supply Co., 113 Courtland St., S.E. Atlanta, Ga.

55. Interpretation of Analysis for the Layman—An eight page booklet explaining what the various terms used in fatty oil and sulfonated oil analysis mean, enabling the ordinary textile man without chemical education to interpret the various chemical analyses. National Oil Products Co., Harrison, N. J.

56. Technical Service Data—giving information on processes of textile manufacture in the use of oils, softeners, etc. National Oil Products Co., Harrison, N. J.

57. Reducing Textile Costs and Troubles—telling all about the benefits of water treatment. Permutit Co., 440 Fourth Ave., New York. N. Y.

58. Trichlorethylene, Its Properties and Uses—A forty page booklet on the properties, uses, and many industrial applications of Tri, including chapters on Degreasing Raw Wool, Scouring Textiles, Dry-Cleaning, Spotting Out, Cleaning Textile Machinery. Roessler & Hasslacher Chemical Co., Inc., 350 Fifth Ave., New York, N. Y.

59. Vat Colors and Their Oxidation—A recently revised edition giving information and methods of the dyeing, printing and Perborate or Peroxide "fixation" of vat colors. Roessler & Hasslacher Chemical Co., 350 Fifth Ave., New York, N. Y.

60. Cotton Machinery Miniature Catalog No. 6—A 130 page booklet describing cloth room machinery for use in cloth rooms, bleacheries, print works, rubberizing plants, dyeing and finishing establishments. Curtis & Marble Machine Co., 72 Cambridge St., Worcester, Mass.

Knitting Section

For high-grade wrap patterns and an excellent product, the ES machine has proven itself, beyond a doubt. It is an outstanding machine. Leading mills, thoroughly experienced in wrap type machines, are re-ordering.

The ES turns out fast-selling merchandise. This machine affords a wide scope of patterns, and exclusive features, including the "Gussetoe". Besides, it is built for long, steady work.

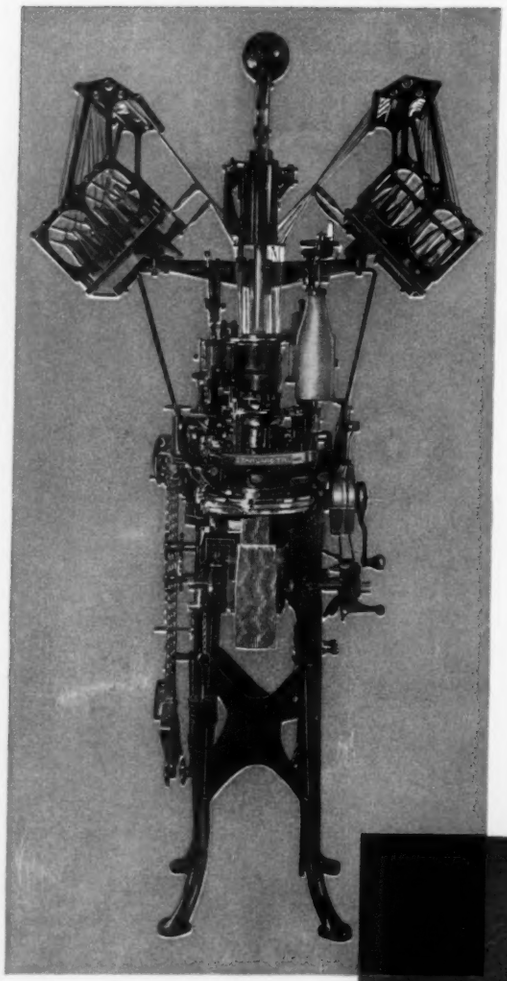
ES

Established 1865

SCOTT & WILLIAMS

Incorporated

Many MACHINES *for* MANY HOSE ACHIEVEMENTS



STANDARD TRUMP

In answer to the widely varied demands of today's hose market, a line of machines has been developed by Standard-Trump which adequately answers this call for many types. Look over these Standard machines before you say "It can't be done"!

STANDARD L *for half hose* a full automatic individual needle wrap pattern machine, with CONCEALED WRAP . . . wrap yarns knit continuously into the back of the fabric while any desired wrap pattern is knit into the face. The concealed wrap eliminates vertical floats, gives a rib appearance and elasticity. There is a wrap yarn for each needle; fifteen steps for regular patterns (with trick wheel control) and fifteen steps for shogg patterns.

STANDARD H *for half hose* in reverse plated patterns—two-feed reverse plated patterns—combination reverse plated patterns, spiral and three color patterns—combination reverse plated and wrap pattern clocks. For golf hose, reverse plated and spiral patterns in three colors. For Misses' hose, in reverse plated and wrap clock patterns. For infants' hose, fine gauge anklets with six-color horizontal stripes.

KOMET— *for half, golf & children's hose* built in Leicester, England, by the Bentley Engineering Co., whom we represent in this country. The Komet machine makes half hose, golf hose and children's hose in fine broad rib.

STANDARD-TRUMP BROS. MACHINE CO.

INCORPORATED

366 BROADWAY, NEW YORK, N. Y., U. S. A.

Second Carolina Yarn Golf Tourney Provides Enjoyable Occasion.

THE second annual Carolina Yarn Association golf tournament was held at Sedgefield Inn, near Greensboro, N. C., on September 18th and 19th. A splendid attendance of association members, with knitters and weavers as their guests, enjoyed an elaborate entertainment program, the features of which were a 36-hole golf competition, and a banquet on the night of the 19th.

C. C. Harding is president of the association, R. M. White secretary, and J. R. Morton treasurer. Ray W. Weaver was chairman of the entertainment committee for the occasion, and W. T. Cheatham headed the tournament committee.

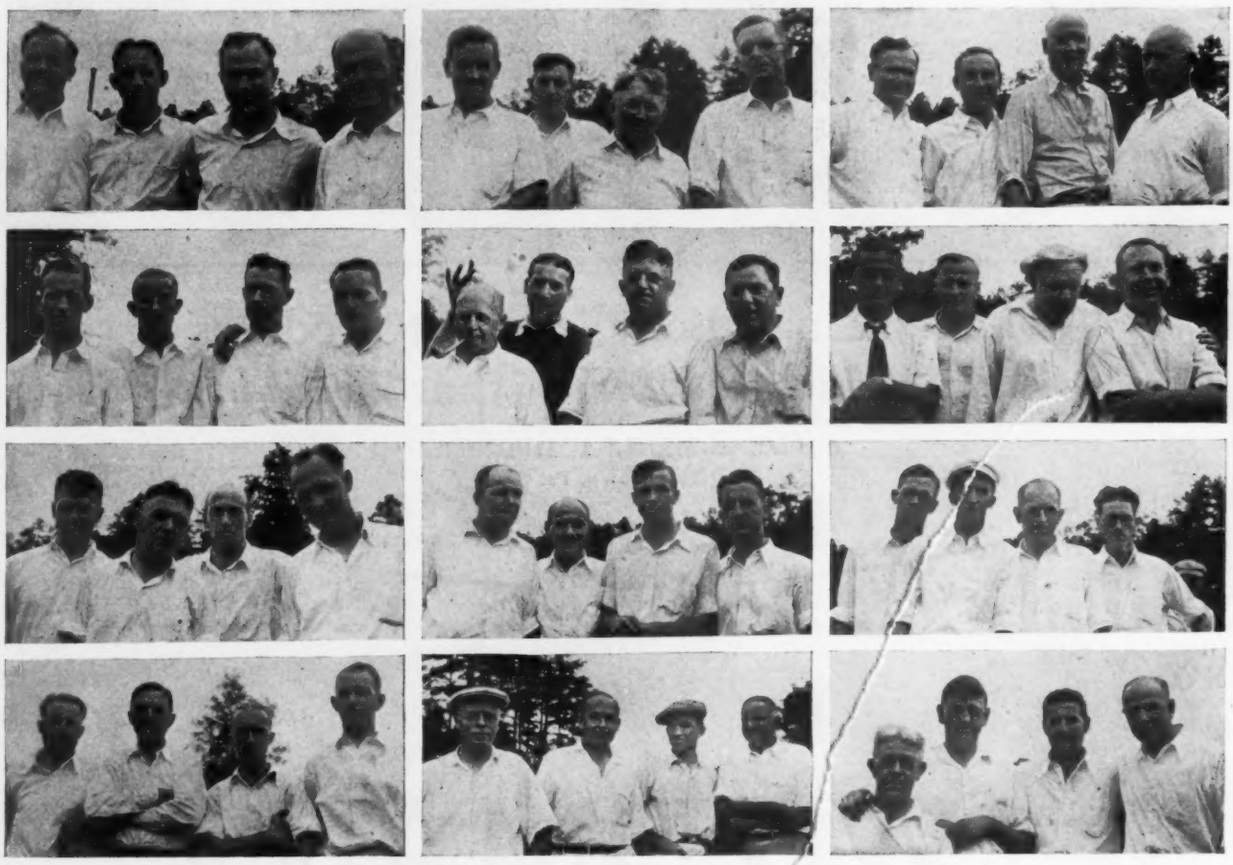
An 18-hole match on Friday, and another on Saturday, comprised the tournament, and an extensive list of handsome prizes was awarded at the banquet on Saturday night.

Fred Lemmond, of Dixie Mercerizing Co., with a low net score of 124 for 36 holes, received first honors, a one-year leg on the association trophy, and a set of silver goblets. J. J. Corrigan, of High Point, came in with second low net. F. O. Pfingst, of Greensboro, made low gross for 36 holes of 164.

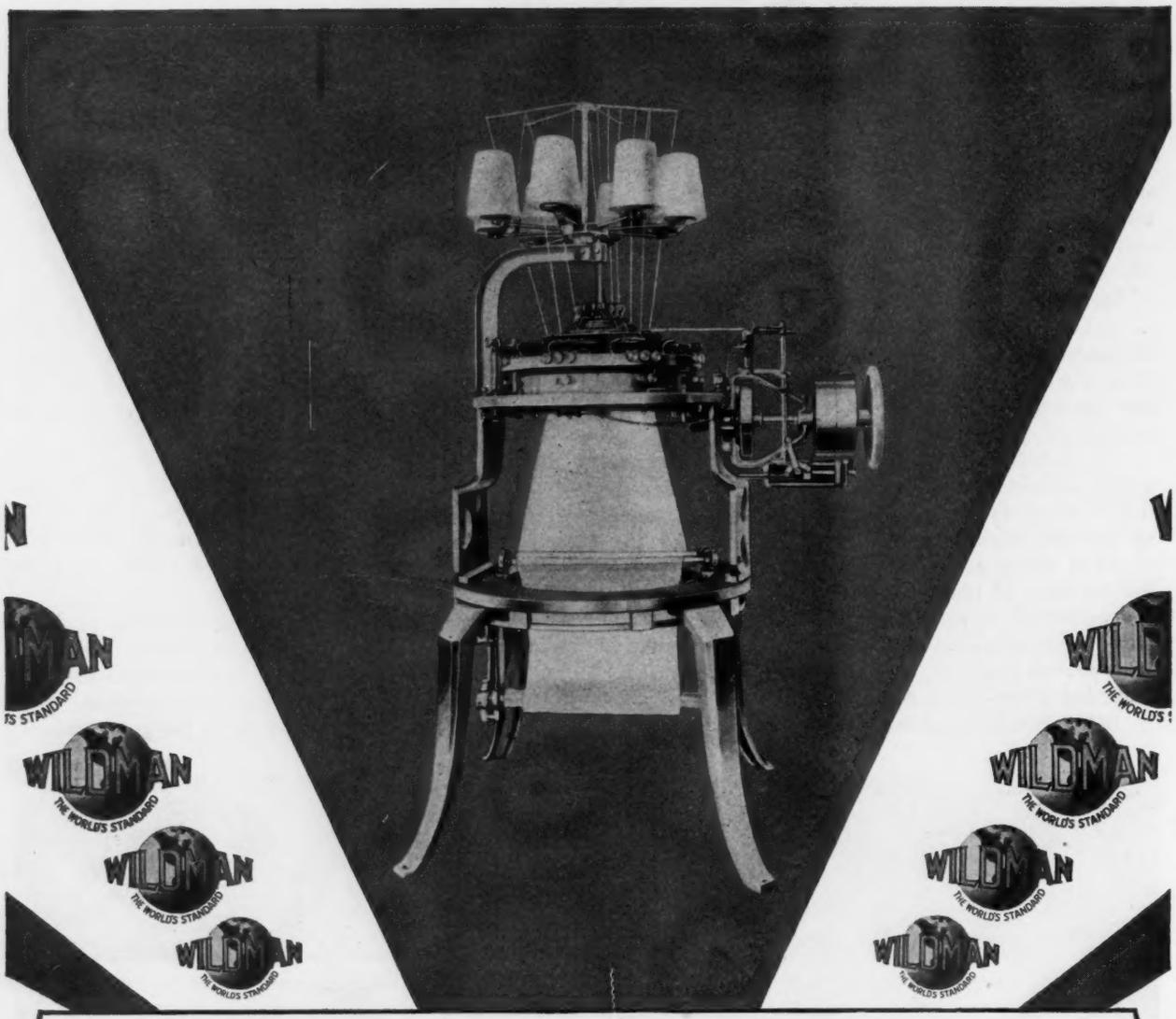
Other handsome prizes were awarded for low net Friday, second low net Friday, first and second low gross Friday and Saturday, and first and second low net for Saturday, etc. In addition to those named, the following received attractive and useful prizes, which were contributed by the association as a whole instead of by individual members separately:

John K. Voehringer, Greensboro; W. T. Cheatham, Burlington; Charles Hall, Chattanooga; Bill Evans, Pittsboro; L. W. Parker, High Point; George Sharp, Burlington; J. T. Cooper, Greensboro; J. V. Garrett, High Point; Emmett Venning, Mount Holly; H. D. Blake, Greensboro; L. D. Tucker, Burlington; J. W. Lindsay, High Point; Bill Nebel, Charlotte; Ralph Holt, Burlington; Albert Garrou, Valdese; W. L. O'Brien, Jr., Winston-Salem; H. W. Davenport; Peter Graham, Mount Holly; Bob Baker, Greensboro; C. E. Beaven, Charlotte; J. W. Woollen, High Point; W. S. Dilling, Kings Mountain; N. W. Murphy; F. D. Tillotson, Winston-Salem; Bruce Griffin, Charlotte; N. E. Griffith, Charlotte; J. Lee Keiger; Dwight Williams; George Graves, Charlotte; and Martin Foil, Kannapolis.

More than 200 members and guests were present. A lavish entertainment program of dancing and singing, staged under the direction of Dick White and the entertainment committee, was the feature of the evening, in addition to the awarding of the golf prizes.



Top row: First foursome, Guy Henley, H. T. Robinson, Dudley Bryan, and Henry Bryan; second, Mr. Maynard, W. H. Suttenfield, A. G. Myers, and Mr. Avery; third, Mr. Tucker, Mr. Kaiser, B. V. May and W. H. May.
Second row: First foursome, W. W. Underwood, Charlie Hall, L. M. Graves, and Bruce Griffin; second, H. W. Anderson, Fred Lemmond, Clyde Wilkins, and T. C. Barber; third, Mr. Cooper, Mr. Matton, J. T. Corrigan, and Judson Holt.
Third row: First foursome, Bob Howerton, R. E. Bothwell, Mr. Shannonhouse, and Mr. Cline; second, George Sharp, T. R. Kramer, Henry Stokes, and K. C. Loughlin; third, Fred Hallenbeck, Jim Woollen, B. Lindsay, and George Woollen.
Fourth row: First foursome, C. H. Gingher, R. J. Mebane, B. D. Sturgis, and M. B. Foil; second, Mr. Williams, Walter Toy, W. H. Slane, and Mr. Vederline; third, Fred Crowell, Dick White, A. D. Moore, and Buck Cheatham.



The Wildman Body Machine produces
Rayon Body Material that is *right*.

WILDMAN MANUFACTURING CO.
Norristown, Pa.

WILDMAN
THE WORLD'S STANDARD

WILDMAN
SPRING NEEDLE BODY MACHINE

Forms in Dyeing and Finishing FULL FASHIONED HOSIERY

By C. H. Baxter

Part Two

HAVING covered the forms necessary up to the dyeing, in a previous article, Mr. Baxter now presents and describes the records necessary in the full-fashioned hosiery mill from this point on through to the end. These forms will be of interest to all full-fashioned manufacturers as a means of comparison looking to possible improvement.—The Editor.

IN MY LAST ARTICLE on various systems and methods that can be used in connection with the manufacturing of full-fashioned hosiery, I ended with the grey hosiery in stock ready to be sent to dye. (Copies of the previous article will be furnished to any readers requesting them.—Editor.)

The next operation in manufacturing full-fashioned hosiery after the hosiery is ready for dye is to find out what colors and assortment of sizes these goods are to be dyed into. To obtain this information, it is therefore necessary to know what orders one has to fill and the inventory of dyed hosiery in stock. To operate a full-fashioned hosiery plant properly, a perpetual inventory should be kept of all dyed hosiery ready for shipping and a daily list of unfilled orders. This information is necessary so that the necessary colors and assortment of sizes can be dyed as soon as any one color is needed in the dyed stock.

To keep a perpetual inventory of dyed hosiery in stock, first one must have an accurate inventory of all the dyed hosiery in stock; this record to be by styles, colors and sizes. A card can be designed for each style and color and the total number of each size of each color and style can be recorded on this card. A loose leaf binder can also be used for this purpose and with a loose leaf binder the entire inventory can be kept in one book. One person should be in charge of keeping these records and each day the number of dozens that were placed in the stock room should be entered on the card or entered on the loose leaf in the book. A separate card or leaf should be made up for each color of each style and all hosiery placed in the dye stock room of a certain color and style should be entered on the card or leaf made out for this style and color.

When hosiery is taken out of the stock room for orders the amount taken out should be recorded on the same card, Fig. 1. By subtracting the amount of hosiery taken out from the amount of hosiery in stock,

FINISHED HOSIERY IN STOCK

STYLE 100 COLOR White

HOSIERY RECEIVED IN STOCK							HOSIERY TAKEN FROM STOCK							BALANCE OF HOSIERY IN STOCK						
DATE	8½	9	9½	10	10½	TOTAL	DATE	8½	9	9½	10	10½	TOTAL	DATE	8½	9	9½	10	10½	TOTAL
1/4/31	4	11½	12¾	15	3	46¼	1/12/31	1	2¼	3	2¾	1	10	1/12/31	3	9¼	9¾	12¼	2	36¼

FIG. 1

CUSTOMER ORDERS RECEIVED
STYLES ONLY

STYLE 100

DATE	8½	9	9½	10	10½	TOTAL
1/3/31	2	5½	7¼	6	2¼	23
1/4/31	1	3¼	6½	3¼	1	15
	3	8¾	13¾	9¼	3¼	38

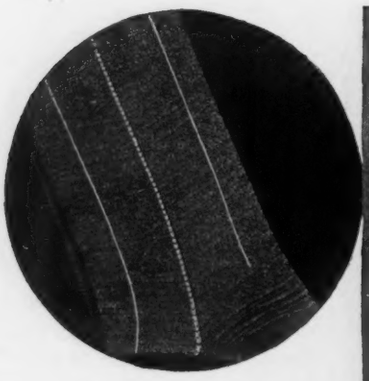
FIG. 2

HOSIERY ORDERS RECEIVED AND SHIPPED

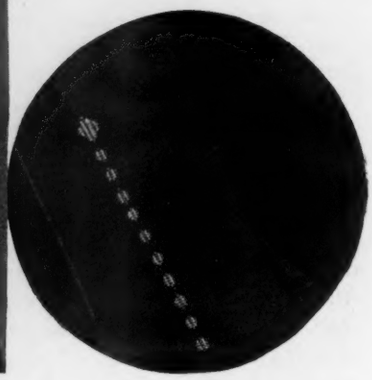
STYLE 100 COLOR White

HOSIERY ORDERS RECEIVED							HOSIERY ORDERS SHIPPED						
DATE	8½	9	9½	10	10½	TOTAL	DATE	8½	9	9½	10	10½	TOTAL
1/3/31	¾	2	4	3½	½	10¾	1/4/31	½	1	1½	2		5
1/6/31	2	4	7	5	2	20	1/7/31	2	2	4	2½	1	11½
	2¾	6	11	8½	2½	30¾		2½	3	5½	4½	1	16½

FIG. 3



Phoenix *wool and silk and wool half hose styled to prevailing trends in fall and winter suitings and shoe leathers*



No other machine can knit these

WINNING PHOENIX FEATURES

in men's wool half hose

Alert Phoenix stylists, keenly alive to changes in buying habits, have discovered that men are much more particular of their hosiery styles than they used to be. Therefore Phoenix Hosiery Company uses Banner Wrap Stripe machines exclusively for their featured wrap stripe wool half hose . . . assuring the finest construction and the widest range of styling. And Phoenix builds its styles on salability!

The Banner Wrap Stripe Machine's Quick Pattern Change allows any manufacturer a wider range of styles because the cost of changing patterns is so much less. And Banner Wrap Stripe Machines have proved their ability to knit any yarn or plated combinations with equal ease.

BANNER WRAP STRIPE MACHINES

HEMPHILL COMPANY, PAWTUCKET, R. I.
General Sales Office and Machine Exhibit, 93 Worth St., New York, N. Y.
Philadelphia, 215 South Broad St. High Point, Commercial Bank Bldg.
Chattanooga, James Building

this will give the balance in stock, which is recorded in the space on the card with the heading of balance in stock.

In each hosiery mill some one person is responsible for sending hosiery to dye and must see that the proper number of dozen and the proper sizes are sent in each dye lot to be dyed. In order that this person can make up a dye lot properly, it is necessary to have a perpetual inventory of finished or dyed hosiery in stock and by having a system as outlined, it is an easy matter to make up dye lots so that the sizes and quantity are correct at all times.

In order to know at all times what assortment of sizes one must make in a certain style, when footing this style a record should be kept of the orders received An individual card or loose leaf sheet can be used for this record and when keeping this record it is well if one will keep a record on the same card or loose leaf sheet of the shipments made against the orders received. Through having this record one will always know how many dozen of a size and color the hosiery should be dyed into and also shortages in shipments against orders received.

In making out dye orders for hosiery to be sent to dye the system to use one must be governed by whether one does his own dyeing or whether the hosiery is sent to a so-called commercial dyer to be dyed. Most dyehouses doing dyeing for others usually have their own system or methods of tagging the hosiery and making out dyeing instructions. If, however, a hosiery

DYEING ORDER

Nº OF BAGS____ DATE Jan 1

ORDER Nº 10

LAYED OUT BY Smith CHECKED BY Jones

BAG Nº	DOZ.	SIZE	LBS.	STYLE	KIND OF HOSIERY	COLOR
1	2	8½	39	100	Cotton & Silk	White
2	2	8½				
3	3	9				
4	4	9				
5	4	9				
6	3	9½				
7	3	9½				
8	3	9½				
9	3	9½				
11	4	10				
12	4	10				
13	2	10½				
14	2	10½				

DYEHOUSE TAG

ORDER Nº 10 DATE Jan 1

BAG Nº	DOZ.	SIZE	STYLE	COLOR
1	2	8½	100	White

LAYED OUT BY Smith

CHECKED BY Jones

FIG. 4

FINAL EXAMINATION REPORT

EXAMINER L. Jones DATE Jan. 1, 1931

DYE ORDER Nº	STYLE	COLOR	SIZE	DOZ.	FIRSTS	SECONDS	THIRDS	REDYES	MENDS	TOTAL
10	100	White	9	6	5 7/12	3/12	3/12			6

FIG. 5

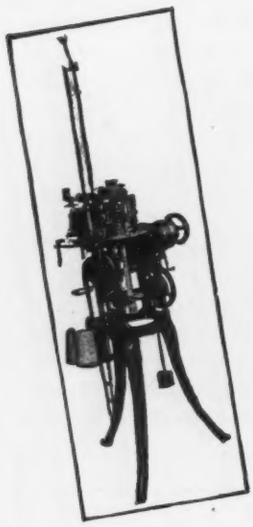
by sizes and the size assortment should be made according to the sizes ordered by customers. Of course, in footing one cannot wait until the customers order hosiery before footing the legs, but through keeping a record by sizes of what the customers order in any particular style a general average of the number of dozen usually ordered in each style can be secured and from this average one can make up what would be called a standard assortment of sizes. Through keeping a record of customers' orders (Fig. 2), one will always know how the sizes are ordered and if at any time a certain size is being ordered over the standard assortment, then it is an easy matter to make up extra dozens in the size needed.

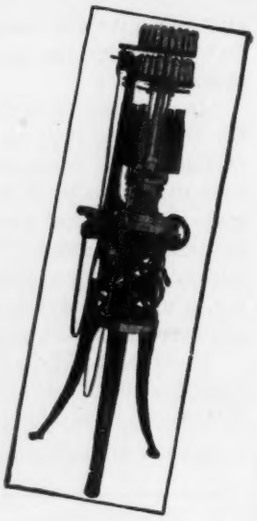
When a manufacturer is doing business direct with the retailer, sizes ordered by the retailer vary a great deal and in order to have in stock for so-called immediate delivery enough hosiery in all sizes in any one color, a record should be kept of the orders received in each color and the sizes ordered (Fig. 3). mill operates their own dyehouse, then it is necessary to have some kind of system so that the dyer will know what color the lot is to be dyed into. A simple system for this work is to have a tag with full information on it that is placed on each size in the dye lot, Fig. 4. A form should also be designed that will show how many dozen must be dyed, the order number, color, quantity and sizes. This order should be sent to the dyehouse with the lot of hosiery and a duplicate order should be given to the boarding department so that they will also know what is going to be dyed.

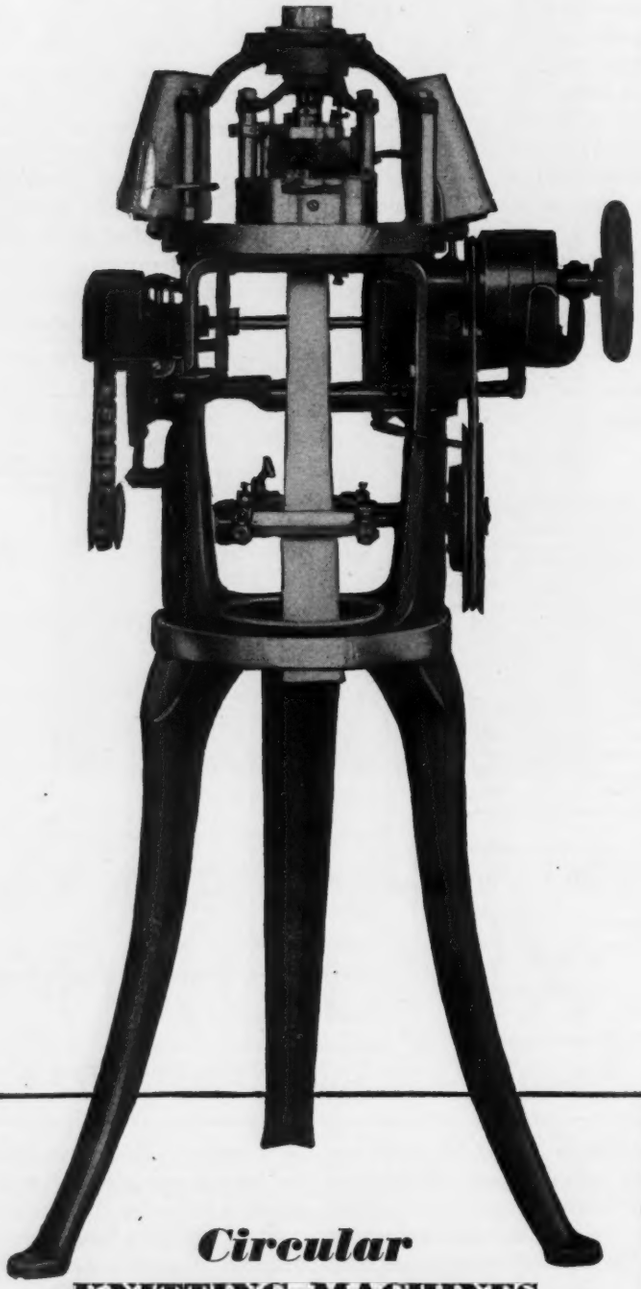
One of the most important records that must be kept by a manufacturer of hosiery is the matter of knowing at all times the number of dozens of first quality, irregulars, mismates, menders and redyers that are in every dye lot. It is also necessary to see that the same number of dozens are delivered into stock as were sent out to the dyer. A system that can be used to secure this information is a form, Fig. 5, given to the employees who do what is called the final

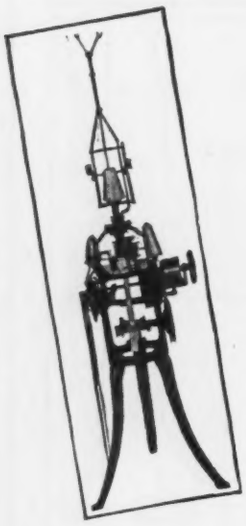
ALL TRUE-RIB

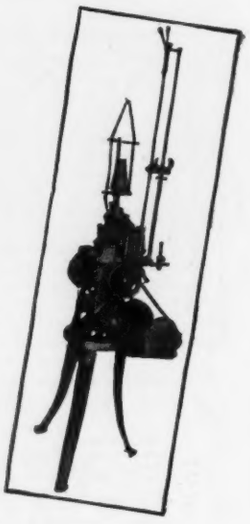
(Patented or patent pending)

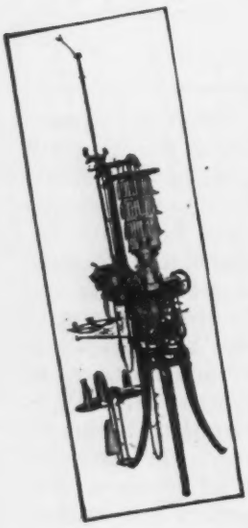


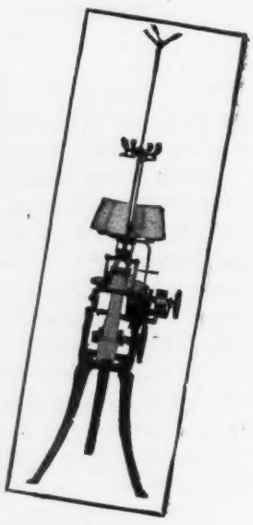












Circular

KNITTING MACHINES
BRAIDING MACHINES
CREASING MACHINES

FIDELITY MACHINE CO.
3908-18 Frankford Avenue
PHILADELPHIA, PA.

THE FIDELITY UNIVERSAL RIBBER

examination of hosiery and each dye lot that is examined should be recorded on this form showing how the hosiery was classified.

When the hosiery has been examined and is ready for placing into stock the classified record should be checked with the dye lot order to see if the number of dozens are the same as were sent to the dyehouse. The total goods should then be counted to see if the amount corresponds with the examiner's record. Through this method a check is had on all dyed hosiery and at the same time one will always know the percentage of good and bad work made.

Any hosiery manufacturer to-day, due to the low prices received for hosiery, must make hosiery with the least amount of so-called "seconds" and it is therefore necessary to know at all times who the operators are that are producing the so-called bad work. In the leg and foot examining a form, Fig. 6, should be given to the examiners and they should mark down under the various headings the number of bad stockings found in the examination. These should be given to the foreman each day and through having this record, it is easy to trace bad workmanship and have it rectified at once. This report should also be used to report bad workmanship on the part of loopers and seamers.

In the final throw-outs of so-called "seconds" in the dyed work a record should also be kept as to the causes for such throw-outs. All records should be examined to determine the cause for same and any seconds thrown out because of manufacturing defects, which should be investigated. The form in Fig. 7 can be used to secure the information as to the causes for seconds in dyed work.

Another cause for losses in the manufacturing of full-fashioned hosiery is the matter of spoiled legs by toppers and footers. Unless a record is kept of this loss the toppers and footers become careless, and the result is that the spoilage of legs is much greater than it should be. A system that can be used so that one will know how many legs are spoiled by each footer and topper is that each day the footer is given a number of dozen legs to foot. This amount is recorded on a card, Fig. 8. If footers are employed on a night shift the dozens not footed should be returned by the footer each day and credit given for the legs returned. If a set of legs are left on the transfer bars the day footer is credited with the number of legs and the night footer is charged with the same number. Each day the footer returns the spoiled legs made for that day which is also recorded on the card. At the end of the week all legs unfooted are returned and the number of dozen of legs used minus the spoiled legs should be the production made by the footer. Under the heading Spoiled Legs will show how many legs were spoiled and if the number of dozen footed by a footer does not correspond with the number of dozen of legs given to him minus the spoilage then an investigation should be made to find out why the legs are missing.

Payroll records, of course, are important in all manufacturing and accurate records are very necessary. Practically all operations in manufacturing of full-fashioned hosiery are done on a piece work basis. Collection, therefore, on all operators should be made daily and recorded on the so-called payroll sheet. On this sheet should be the number of dozens finished by an operator each day and the total dozens done by all operators on any particular operation. Time workers should be listed separately so that one can always know how much it is costing for time workers in the various operations. The number of hours that each employee has worked should be recorded on the payroll sheet

EXAMINATION REPORT

DATE Jan. 1 STYLE 100

OPERATOR J. Smith OPERATION Legger

NUMBER DOZEN EXAMINED 20 Doz

NUMBER OF STOCKINGS WITH DEFECTS 5

PERCENTAGE OF DEFECTS 1%

SHORT IN COUNT	
DROP STITCHES NARROWINGS	2
OTHER DROP STITCHES	
BAD SELVAGES	1
DRY SILK OR SLEAZY STOCKINGS	2
CUTS AND HOLES	
ENDS NOT CLIPPED	
HIGH STITCHES	
BAD TOPPING	
POOR MATCHING OF FOOT TO LEG	
BAD LOOSE COURSES	
KNOTS AND SLUBS IN MATERIAL	
DROP STITCHES IN LOOPING	
DROP STITCHES IN SEAMING	
SEAMING BADLY MATCHED	
OTHER DEFECTS	

FIG. 6

CAUSES FOR SECONDS

STYLE _____ DATE _____

DYE ORDER Nº _____ COLOR _____

UNEVEN SILK	2 1/2
SLUBS AND KNOTS IN SILK	1 1/2
MENDERS LEG	1/2
MENDERS FEET	1/2
MENDERS TOPPING	
MENDERS LOOPING	
POOR MATCHING OF FEET TO LEGS	1/2
SHORT LENGTHS	1/24
POOR PLATING HEEL	
POOR PLATING SOLE AND TOE	
SLEAZINESS	5/24
OTHER CAUSES	
TOTAL	5 Doz.

TOTAL DOZENS DYE ORDER 50 Doz.

PERCENTAGE SECONDS 10%

FIG. 7

SPOILAGE OF LEG

WEEK ENDING Jan. 3, 1931

FOOTER J. Smith STYLE 100

DAY OF WEEK	LEGS RECEIVED	LEGS RETURNED	ON BAR AND MACHINE CHARGE	ON BAR AND MACHINE CREDIT	SPOILAGE
MON	10-25-10			24	3
TUE	25-15		24		6
WED	30-				2
THU	25-10-5		24		9
FRI	25-5				7
SAT	10	15 14/24			6
TOTAL	195	15 14/24	2	1	1 10/24

LEGS USED 178 10/24 Dozen

FOOTING PRODUCTION 177 Dozen

LEGS SPOILED 1 10/24 Dozen

FIG. 8

NAME J Smith
ADDRESS 140 First St.
DATE OF EMPLOYMENT Oct 12, 1930
DEPARTMENT Legging

WEEK ENDING	HOURS	STYLE	DOZENS	AMOUNT PAY RECEIVED
1/3/31	50	100	60	42.50

FIG. 10

PAYROLL REPORT

WEEK ENDING _____

OPERATORS' NAME	OPERATION	STYLE	MON	TUE	WED	THU	FRI	SAT	TOTAL DOZENS	RATE	HOURS	DEDUCTIONS	TOTAL WAGES
J Smith	Legging	100	11	9	7				27	75			
		140				11	12	4	27	70	50	$1.00	38.15

FIG. 9

PRODUCTION CONTROL RECORD

WEEK ENDING	SILK USED 4THD	5THD	7THD	COTTON USED 50/2	70/2	100/2	LEGS	FEET	LOOPING	SEAMING	GREY EXAMINING	BOARDING	FINAL EXAMINING	SPOILED LEGS	WASTE SILK	COT.
Jan 3	60-0	75-0	40-0	10-0	15-0	5-0	1123	1092	1046	980	960	1200	1135	8 5/16	11-4	5-9

FIG. 11

at the end of each week. In the matter of payroll each manufacturer must design his own form to meet his own conditions or requirements but the form in Fig. 9 gives one an idea of what kind of a payroll sheet can be used.

In order to have on hand a record of how many hours each employee has worked each week, the number of dozens made and the amount received, an individual card for each employee giving this information should be used. This card should be designed so that a card can be used for one year or fifty-two payrolls, Fig. 10. With this record, it is always easy to find out how many hours a certain employee has worked over a period of time and the number of dozens produced. This card can also be used for making out income tax return reports and this is one record that will always give the supervisors information on who the employees are that do or do not work steady and also the good producers and the poor producers.

There are many operations in the manufacturing of full-fashioned hosiery and the supervisor of production must always see that there is no tie-up in any particular operation due to loss of production. In order that one may have the information of how many dozens are produced each week in each operation, a form should be had on which is recorded the production each week of each department or operation. This form, Fig. 11, can be designed so it can be used for three months, six months or one year and will at a glance always show how each department is producing and if one department or operation is falling behind, of course, it is then necessary to take steps to build up the production in the department that is falling behind.

In my previous article on systems I mentioned that I do not approve of too much system but every manufacturer realizes that it is necessary to have certain records and inventories on hand at all times to be successful. We all have our own problems to solve and I do not wish anyone to feel that the various systems that are outlined can be applied to every hosiery mill. Each one of us has different ideas in reference to systems and in writing this article I have done so with the thought in mind that it might be helpful in solving the problems of others who are anxious to get the best results possible in the manufacturing of full-fashioned hosiery.

Leucosol Brown 3R Double Paste.

The Dyestuffs Department of E. I. du Pont de Nemours & Company, announces the development of Leucosol Brown 3R Double Paste, a vat color of the anthraquinone series prepared especially for printing. It is stated that it possesses the characteristics of the Leucosol group of colors and is exceedingly fast to all destructive agents with which the color is likely to come in contact, either during the printing or finishing processes or later during the life of the fabric. This color, it is stated, is extremely fast to light, washing, including rope soaping, soda ash and chlorine.

Celanthrene Black Powder.

Newport Chemical Works, Inc., Newport, N. J., state that Celanthrene Black Powder is a direct dyeing color for Celanese yarns and pieces, producing full bloomy backs of very good general fastness. It is also stated that the suspension qualities are very good and the exhaust is slow, insuring level and well penetrated dyeings.

It is pointed out that since cotton and rayon are stained when dyed by the one-bath method, the Celanese must be dyed before weaving where white, or colored cotton or rayon novelty effects are desired.

Bulletin on Shallow Type Safety Panel.

The Switch & Panel Division, Square D Company, 6060 Rivard Street, Detroit, Mich., has just announced the publication of a new bulletin describing its new shallow type safety panelboard. The bulletin has eight pages, two of which contain a description and reproductions of the new panelboards, which are mounted in cabinets only 6 inches deep. The balance of the pages are devoted to price lists. The form number of the new bulletin is CA505A and is a supplement of Bulletin CA505, which describes the Square D standard safety panel.

Only a Machine can Slice Accurately

It's mechanical accuracy that *is* accuracy... whether the machine is one for slicing meat or making Torrington needles! The results are uniform. They are dependable.

Torrington Spring Beard needles are machine manufactured; and this reassuring principle of precision commends them to knitters who want their finished product to have the ultimate mechanical exactness.

The red box with the green label. Packed 1000 to the box. Each box contains 10 packets of 100 needles wrapped in glazed paper.

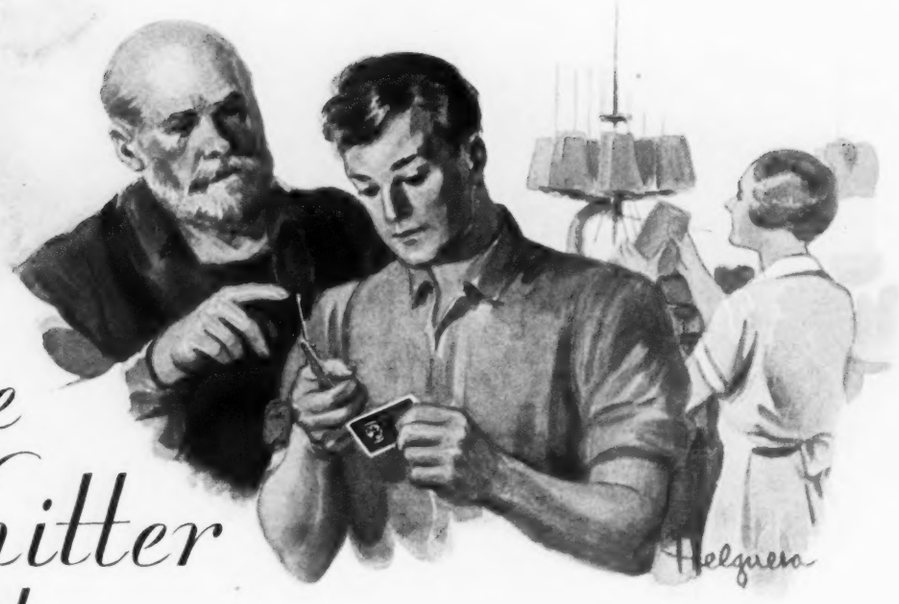
The Torrington Company
ESTABLISHED 1866
Torrington, Conn., U.S.A.

BRANCHES:

THE TORRINGTON COMPANY,	1640 FAIRMOUNT AVE.,	PHILADELPHIA
THE TORRINGTON CO. INC.,	140-144 W. 22ND STREET,	NEW YORK, N. Y.
LOS FABRICANTES UNIDOS,	964 CALLE BELGRANO,	BUENOS AIRES

FACTORIES AT:
TORRINGTON, CONN.
UPPER BEDFORD, QUEBEC
COVENTRY, ENGLAND
AACHEN, GERMANY

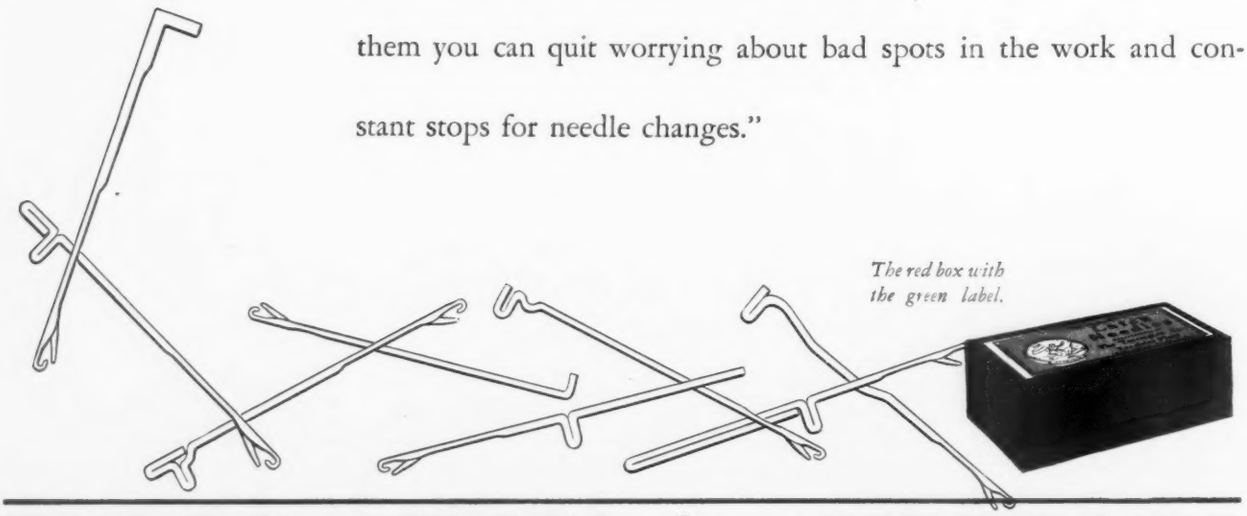
TORRINGTON
Spring Beard Needles



The Old Knitter Talks

"You'd like to see your shelves pile up fast with first-class work, eh Lad? Well, Torrington Latch Needles are your bet...for volume production, with every piece as good as the last one!

"With Torrington needles, the going's smooth and steady. With them you can quit worrying about bad spots in the work and constant stops for needle changes."



The red box with the green label.

TORRINGTON *Latch* NEEDLES

KNITTING KINKS

PRACTICAL DISCUSSIONS BY COTTON'S READERS ON VARIOUS KNITTING SUBJECTS

A Trying Experience.

Readers of "Knitting Kinks" will find this interesting, and are invited to discuss it.

EDITOR COTTON:

One of my most difficult experiences on a Model K 3½-inch, 260-needle machine was an attempt to duplicate a competitive style made of an acetate combination wool and cotton twisted yarn. The welt, leg and foot were made out of 75 denier acetate twisted with 60s/1 cotton, 30 per cent wool. The heel and toe were 55 denier acetate twisted with 30s/1 cotton 20 per cent wool. We plaited the 75 denier over 80s/1 cotton.

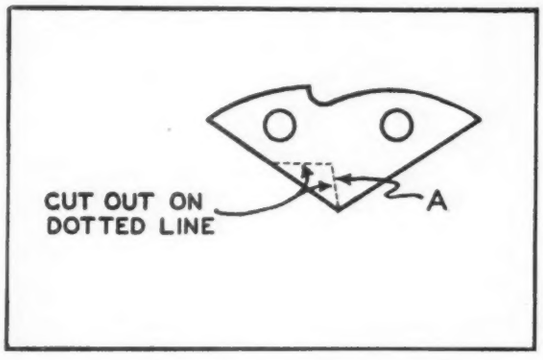
This yarn had come from a reputable manufacturer, but just the same it was hard to work due to knots and slubs, which are numerous in yarn of this type, and I am sure others who have experienced this will agree with me.

The first shipment of the 75 denier combination that we received was defective due to the twist per inch not being sufficient to withstand knitting, resulting in cut-outs appearing everywhere in the hose, especially in the welt and boot due to the looser stitch. The fabric was so rotten that putting your finger through one of the holes and pulling it apart was like taking a piece of tissue paper and tearing it in two. This yarn was sent back and a new assignment sent, which was right in turns per inch for strength, but was knotty and full of slubs. This, the yarn manufacturer stated, could not be helped, due to the nature of the yarn. As our imperfects ran up to 50 per cent due to holes in the fabric caused by the knots and slubs, it was either a question of stopping the trouble or shutting down the machines.

Our machines are equipped with stop motions, and we were attempting to plait the foot with the 80s/1 cotton. Naturally, to plait, it was necessary to have a slight tension on the 75 denier twisted yarn. But in so doing it made our trouble all the more serious. It was necessary to relieve the tension as much as possible, even at the sacrifice of imperfect plaiting, in order to make it run. We had taken the yarn out of the stop motion and let it flow freely into the needles, but still this, although it helped a little, was not sufficient to let the machines run.

The thought occurred to me, why would not an anti-knot stitch cam work to good advantage? With my experience on the Scott & Williams machines, I know this type of cam is used on the coarser gauge machines, and the R I model, but I had never used any on a machine as fine as a 3½-inch 360-needle Model K. Due to the fact that this yarn was full of knots and slubs, I tried it out and it worked! It did not eliminate the trouble entirely, but I can say 75 per cent of the cut-outs due to knots were stopped.

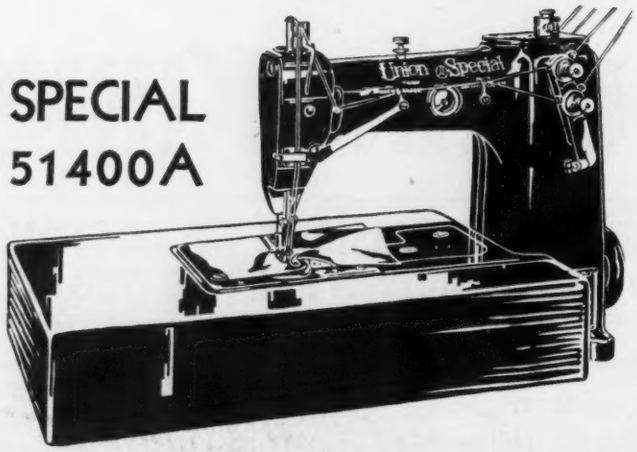
All that I did to the stitch cam to get the anti-knot idea was to cut out that portion of the cam as is shown in the illustration. The machine builders have these cams in stock, but I find for this purpose, the



left stitch cam already in the machine will serve the purpose. I wish to state that in connection with the anti-knot stitch cam, a special side cam is supposed to be used, to prevent overthrow of the needles, but in this instance I did not disturb the side cam, but left it as is, only cutting the left stitch cam as shown. In cutting this cam, extreme care must be taken not to touch the bottom point, for by so doing, uneven heel and toe will result. Also, the point *A* must not be cut too far, for by so doing the needles will have a tendency to relieve too quickly, resulting in uneven heel

WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

UNION SPECIAL
STYLE 51400A



SAVES ITS COST IN 2 YEARS!

—large midwest ★ Shirt Manufacturer

ACTUAL plant records covering an entire month's operation in the factory of a large midwestern shirt manufacturer have again substantiated highest expectations for the new Union Special Class 51400 machines. Working side by side with the machines formerly used for the sleeving operations. Style 51400 A ran far in advance with an increase in production of 31.9%. This made possible a reduction in piece work rates and increased operators' earning by 15%. The actual saving in two years time is more than enough to pay for the new equipment.

Style 51400 A is especially designed for double stitch felling on woven fabrics such as can be readily accomplished on flat bed machines. Quality operation at a speed of 4200 R. P. M. makes large production increases possible.

Write for samples and complete information.

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C10Gray

and toe.

With the elimination of this source of trouble, however, our worries were not over yet. A large per cent of the cut-outs were due to cut-outs on the yarn changes, going on heel, off heel and onto toe. These cut-outs were not due so much to the strength of the yarn itself as to the bulk that resulted due to the lapping of these three yarns at each change. The 55 denier, 30s/1 cotton 20 per cent wool twisted seemed a little heavy for the heel and toe on a 3½-inch, 260-needle, on these changes, although the fabric itself was what we wanted. The cut-outs were so frequent, however, that every means was taken to prevent them. The yarn changes were made as short as possible, the shears were adjusted to cut off the yarns as they changed without a pulling effect on the yarn itself. The stitch cams were concaved to relieve pressure of the stitch as much as possible, the tensions were released as much as practical, the sinker rings were checked for proper adjustment, but regardless of all these preventives, our trouble was remedied only by changing to a 75 denier acetate, 40s/1 cotton 20 per cent wool twisted. Although this was a lighter heel and toe than we desired, we found this combination to work the best. It almost stopped all cut-outs on the yarn changes.

CONTRIBUTOR No. 5078.

Dispenses with Topping-on Press-Offs.

A superintendent describes his method of checking up on press-offs, and for handling them without topping-on.

EDITOR COTTON:

I have been reading with much interest in COTTON the articles with regard to press-offs, especially on leggers, as I have given this question serious thought, and have always had a vision that some day we would all get away from topping on, as it is costly and holds up production.

Over two years ago I was put in charge of a plant myself, where I was free to install any practical system, and I immediately got to working along the lines of eliminating topping on. I now have a system which

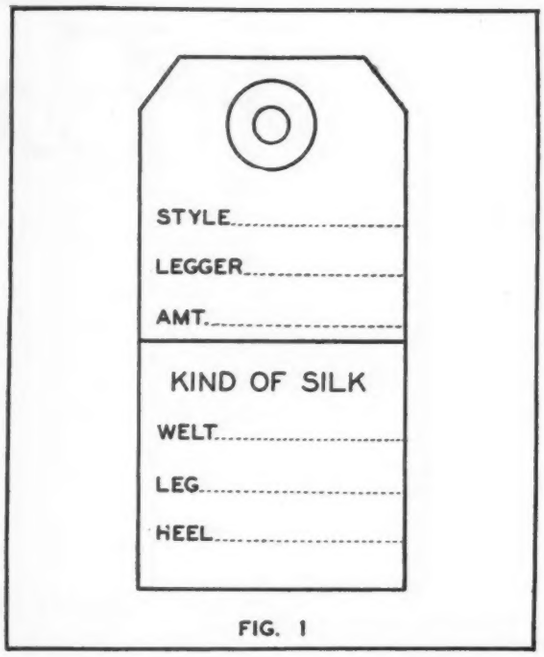


FIG. 1

gives me the least amount of waste and the most production, and an accurate record of every knitter's press-offs, as well as telling just how soon after the top went bad it was pressed-off.

I made a time study of production, and arrived at the figure that if it took a legger more than two minutes to top on a press-off, he was holding up the production of the rest of the machine. I also found out that few knitters are capable of topping on a top, raveling it and replacing the head and getting the machine started again in two minutes. Then, of course, no matter how closely we watch where the legger tops on, there must always be some silk unraveled and wasted; also, often a top is topped on, only to become a press-off because of a broken needle or a mis-stitch or a drop-stitch. Sometimes one tears off a needle beard, this being unknown when raveling, and when it is started up, there is a press-off.

The only time I found it paid to top on was after

STYLE 640 Date 8-19 1931

KNITTER	Amount	Welt		Before Leg Narrowing		After Leg Narrowing		Heel		Menders	Good Ones
		Pressed Off	Run Over	Pressed Off	Run Over	Pressed Off	Run Over	Pressed Off	Run Over		
Jackson	13/24	1	1	3		1			7		
#8 Nite	21/24	5	1	2		4	1		7	1	
J. F. Wren	1/24	2		2		1			2		
A Kivelt	122/24	6	5	5	1	1	3	1	24		
E Lotta	6/24	1		1		2	1		1		
Thompson	10/24	1		2			3		4		
Faulkens	9/24	4	1	1				1	2		

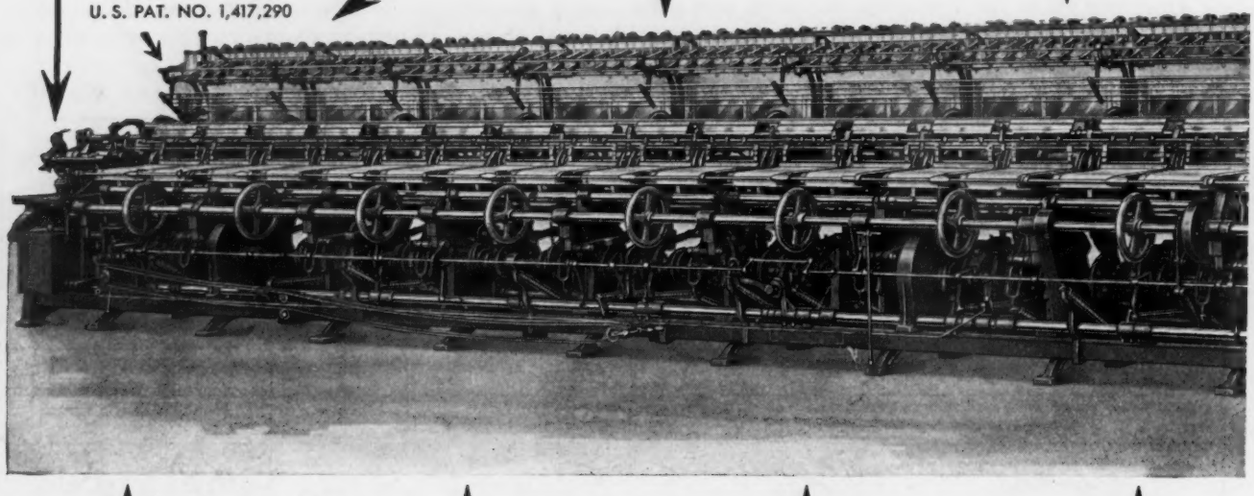
FIG. 2

Exclusive

The "REA
Full-Fashioned

Improvement of the Reading Full-Fashioned Knitting Machine is a constant process: But any new design, attachment or control developed by "Textile" is incorporated in the machine only after it has proven, in actual service, to be *practical and valuable.*

The many exclusive features noted below contrib-


CROSSBAR CHAIN
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RE-ENFORCED SELVAGE ATT.
U. S. PAT. NO. 1,713,628
U. S. PAT. NO. 1,752,206
U. S. PAT. NO. 1,417,290
NARR. SAFETY STOP
U. S. PAT. NO. 1,381,444
JACK MECH.
U. S. PAT. NO. 1,371,535
SLACK PREVENTING DEVICE
U. S. PAT. NO. 1,701,169
REVERSING DRIVE MECH.
U. S. PAT. NO. 1,712,660
CAM SHAFT BRAKE
U. S. PAT. NO. 1,705,500
KNOCK-OVER BIT
MECH.
U. S. PAT. NO. 1,150,567
LOOP REG. MECH.
U. S. PAT. NO. 1,417,289
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ute toward the Reading's outstanding performance as a producer of better fabric at higher speeds and lowest operating costs.

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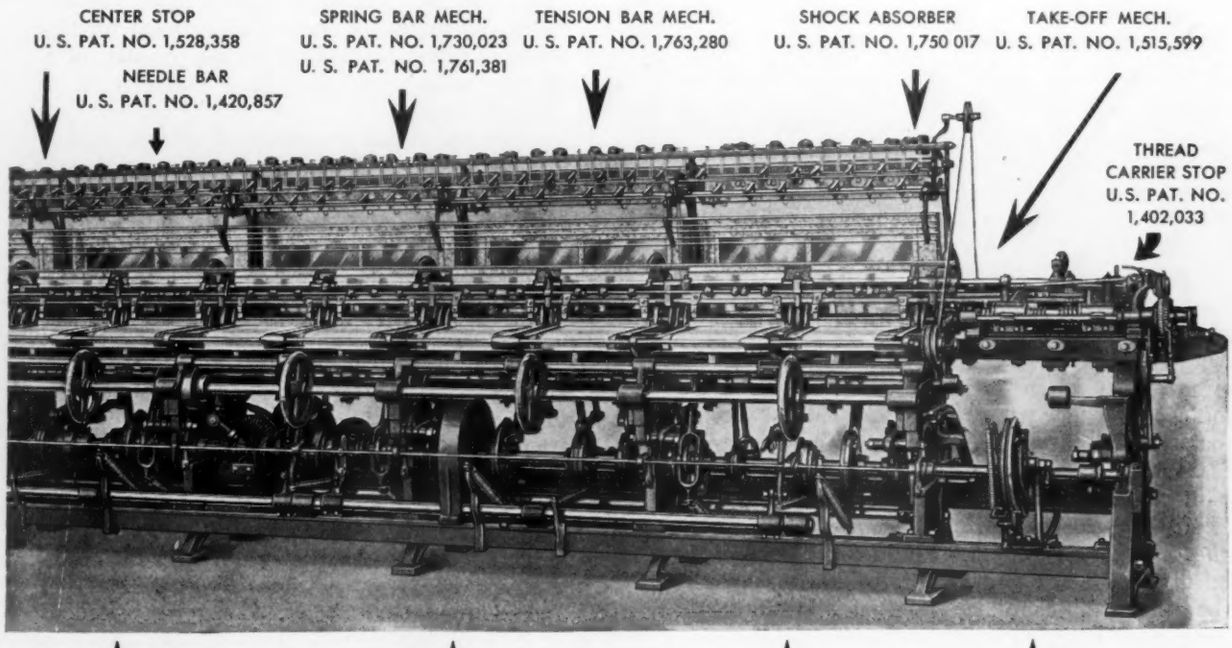

MORE THAN 22 ADDITIONAL U. S. PATENTS PENDING

working hours; that is, if a knitter stayed in Saturday afternoon and topped on sets. I know we all like our Saturday afternoons off, so this should be eliminated also.

With the system I have, with no topping on, our production on 42-gauge leggers, four-thread, 54 courses per inch, is an average of 80 to 85 dozen per 54-hour shift per week, high speed machines; 60 dozen per week on slow speed. This is all silk, with picot.

My leggers put all press-offs aside and at the end of each shift they are tied up and ticketed with the ticket shown in Fig. 1. These are then collected. An inspector goes over all the press-offs and makes out a report as shown in Fig. 2. These reports are sent in to me each day. I can readily see just how many press-offs each legger has, where they were bad, and where they were pressed-off.

We have six gangs of Universal winders we use for back-winding all of our press-offs; four gangs for legs and two gangs for welts. We have built a light frame over the winder, with a wooden clamp or clothes-pin fastened on this frame. This holds the tops while they are being backwound. All silk is saved and we use it over again on the machines. We use a lot for splicing heel bobbins and toe bobbins on the footer. The rest is just put in the conditioning room and given out with other silk. We had our winders equipped with special cone holders, and we can now use the same paper cones that the silk was originally on, and the legger can hardly tell the difference between a new cone and a back-wound cone.

We change styles and silk continually, and this has been a great help in keeping things caught up, and very seldom do we come across legs of a former style, which usually pop up from some place no matter how you may try.

I want to emphasize here that if anyone tries this system, do not use backwound cones on the footer, as it is the best policy, and one I always adhere to, to use only the best of silk on a footer, because you can make ever so many seconds by bad matching by using poor cones on a footer. I always make legs with my other cones as that is the quickest way to use it up and the least seconds are made by doing this.

There is another method I tried first, but it did not prove so satisfactory as we have only 24 leggers and they are never all on the same style or grade of silk. I equipped a legger with transfer attachment just like a footer, and had toppers who would top on the press-offs, some sets after the welt, other sets after the narrowings, some before narrowings and some just before splicing. These were dropped in the machine, bars turned up and the set was ready to go. This was very efficient but our mill was too small as the machine had to be continually changing from one style to another to keep pace with the leggers on different styles. A large mill, or a mill making only one style of work over a long period, could ,it seems to me, use this method efficiently.

I might say that we had a test made by putting on a whole set of back-wound yarn from press-offs on one legger. Running all day, the record showed, out of 15 sets run: 5 full sets, 5 sets of 23, 3 sets of 22, and 2 sets of 20 each; 14 press-offs we credited to poor coning or could be blamed on back-wound silk. Our average percentage of press-offs is about 3.4. The average from the press-off yarn showed 3.8 per cent.

CONTRIBUTOR NO. 5079.

Value of a Laboratory to the Dyehouse.

The advent of light shades made more accurate control, etc., necessary; description of satisfactory apparatus is given.

EDITOR COTTON:

A fully equipped laboratory plays an important part in the dyeing of hosiery today. The majority of the modern mills are equipped with a laboratory, but there are still many mills who depend on outside sources for laboratory data. This practice dates back to the advent of popular shades on hosiery. The dyers at that time only had about four or five shades—tan, navy, gray, white, etc. Laboratories were very scarce in those days and I must admit that with only these shades to dye there was little need of one, and if there was any difficulty in producing one of these shades the dyer could always re-dye the lot black, black always being a big seller, and the mill didn't have to be afraid of being overstocked on that shade. Hosiery dyers in those days were not as skilled as dyers in other branches.

With the advent of the light shades, however, the hosiery dyer had something entirely new to cope with. The result was that most of the formulas were compounded in the laboratories of the dyestuff companies. Good hosiery colors at that time were few and far between and this was soon discovered by the hosiery dyer. When the mixtures compounded by the manufacturers failed to produce certain results, in a practical way, some dyers were in a quandary as to how to correct them.

This condition caused a number of mills to install laboratories and some of these were manned with graduates of textile schools to work out some of these problems in a technical way and also to aid the dyer in experimental work. Between the practical knowledge of the dyer and the technical knowledge of the chemist, the mill was in a good position to overcome most of their dyeing problems. Hosiery could be experimented with in their own laboratories. Water and other conditions being the same, formulas would be likely to check.

By that I don't mean to convey the thought that a formula taken from a dyeing in the laboratory could check exactly; that would be an accident. I mean to say that the formula would be a safe start for the dyer to dye a lot with. In a laboratory where formulas are compounded for the dyer, there are a great many chances for human error.

Most dyehouse laboratories are equipped with bunsen burners and other arrangements to heat their pots or beakers while dyeing. This condition causes a more rapid evaporation than that of a dye bath and dyeing machine heated by steam. This condition alone is one for the dyer to study before figuring a formula for use in a practical way.

With the advent of dull finishes, etc., a laboratory is indispensable in the successful dyeing and finishing

Women's Hosiery of DIXIE *Durene*

Dixie durene offers knitters of women's hosiery a variety of counts, spun from selected long staple cotton, and prepared particularly for hosiery production. There are Dixie durene yarns especially adapted to knitting full-fashioned or seamless stockings of all Dixie durene construction. There are others for plaiting, and still others carefully spun and wound for seaming and looping.

The Dixie representative in your territory will gladly submit samples of any of these types for a trial run in your mill.

DIXIE MERCERIZING COMPANY

CHATTANOOGA, TENNESSEE

DIXIE DURENE *A Product of Controlled Manufacture*

of hosiery. There are a great many trade names for dull luster hosiery. Some of it is dull due to the twist of silk used; the regular tram is processed in the dyehouse to bring about the dull finish. This condition is another cause for exhaustive experimentation. Some colors are affected more than others, with these finishes and with laboratory information at hand the dyer is able to control his conditions more readily.

I have gotten very good results with a laboratory equipped with live steam to heat dye pots with. We have a ⅜-inch iron pipe running across the counter or table where the dyeings are made. There are three outlets extended down from this line. The outlets are ⅛-inch Monel metal tubing, and each is equipped with swivel joints. Each outlet has a Monel cap screwed on the bottom end of it. These caps have a small hole about the size of a pin point drilled in them. Steam is controlled with a valve at the top of the outlet. Pots can be boiled very quickly and kept simmering at the boil. Beaker or pot boiled in this manner can be boiled for a half a day without overflowing. Condensation of the steam in the dye bath, therefore, is identical with that of a dyeing machine at the dye house. Dyeing conditions are the same as those in dyehouse and formulas will check closer than those dyed in laboratories where dye baths have other heating arrangements. Equipped in this manner, a dyer should be able to train his assistants in both technical and practical methods, and in time the mill will be well fortified with capable assistants who are able to carry on in the dyer's absence.

Such a department can render valuable aid to other parts of the mill also. There are new yarns to be tested, oils in the knitting room to be analyzed, etc., and this service alone eliminates a lot of difficulty that would arise in the event of selecting inferior oils.

W. H. L. (N. C.)

Gore and Welt Holes on Plaited H H Work.

Also information as to percentage of waste and menders needle breakage, etc., on this work.

EDITOR COTTON:

One of your contributors recently reported difficulty with holes developing at the gore corner, where the rayon and Celanese are plaited over one another, in running half-hose of 150-denier rayon plaited with 150-denier Celanese on 3½-inch, 220-needle H H machines.

It is my opinion that the holes at the gore point are no doubt caused by the outer circle of the center sinker cam being a little too full and drawing the sinkers out far enough so that the two sinkers cut a hole at the corner of the gore. To correct this, it will be necessary to remove the center sinker cam and grind off just enough so that the sinker nibs will clear the needles when they are drawn out to allow the needles to receive the yarn. In grinding these center cams it is very important that a correct radius is maintained.

This man reported also holes in the welt on this same work. I would say that it is necessary, when making the welt on H H machines, to have a slight drag on the yarn used to knit the welt, and also see that the latch opener is correctly set so that all latches are open before the yarn is fed to the needles and that the throat plate is set comparatively close to the needles.

This man wanted to know what would be good figures as to breakage of needles, hooks and cast-offs, as well as menders and waste, on this work, the machines operating daytime only.

As to the average needle breakage per machine, I would say that I would consider one needle to a dozen about the correct number; the same applies to cast-offs and hooks.

As to the menders on such work, this would depend mostly upon the condition of the yarns used. It is necessary when running Celanese and fiber to have the yarns well conditioned so that they are properly oiled for good knitting. As to the percentage, I would say that from 5 to 10 per cent is a fair average in this class of merchandise put in the box.

CONTRIBUTOR NO. 5029.

EDITOR COTTON:

"CONTRIBUTOR NO. 5020" asks a remedy for holes in the corner of the gore, on 3½-inch, 220-needle H H machines, running 150-denier rayon plaited with 150-denier Celanese.

After a year of experimenting, we found that the center sinker cam was entirely too full and must be ground to just barely clear the hook of the sinker at the feeding point—thus avoiding loops in the heel and toe. The hole is caused by the sawing of the sinkers at this point while reciprocating. Except in a few cases, we did not find the specially made sinker, No. 2146, very successful.

This man also states that he is having trouble with holes in the welt on these goods, but he does not say whether he is using spiral (floating) machines, or plain machines sinker reverse plaiting, so that it is not possible to say exactly what his trouble might be. I suppose the hole occurs at the point where the welt is hemmed down. If the hole runs down from the make-up, it would indicate that the latch opener or the needle divider is the cause, but if the run is going up or just plain drop stitches, this indicates that the cam under the thrust bar which pulls the center cam back at the welt hem has become worn in steps or become very rough and does not fall freely. In case spiral machines are being used, there is often a gap left in the cam track under the selector levers, allowing them to fall so slightly that it cannot be seen at full speed, but enough to knock down a few jacks. Sinkers that have burrs on them from being run into the dial will also unhook stitches at this point.

On this class of work, I would say that three pounds of rags per 100 dozen would be a good average, and 10 per cent or better is a good average for menders or seconds. There are three angles from which we must consider needle breakage: first, heat of the room, which should never be under 78 degrees F.; second, humidity; and last but not least, the efficiency of the fixer. The regulation stop motion is best protection in case of excessive needle breakage. On machines operated 20 or 24 hours, there will be a 20 to 25 per cent decrease in rags, menders, seconds and needles over the amount used in daytime operation only.

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UNIFORMITY not only in size, contour and temper but in *lasting* quality as well. Royersford Sinkers hold their shape in the machine indefinitely because the hard steel cleats are secured to the shanks with *hard steel rivets* that *prevent shifting* of the cleats. This important feature together with a velvet-smooth finish makes Royersford Sinkers the first choice of experienced operators.

The care and skill that go into the manufacture of Royersford Sinkers also produce Royersford Dividers, Split-Dividers, Knock-over Bits, Jacks . . . and, of course, Royersford Needles. We will gladly quote prices on any quantity of the parts you require. Write us today.

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NO SHIFTING

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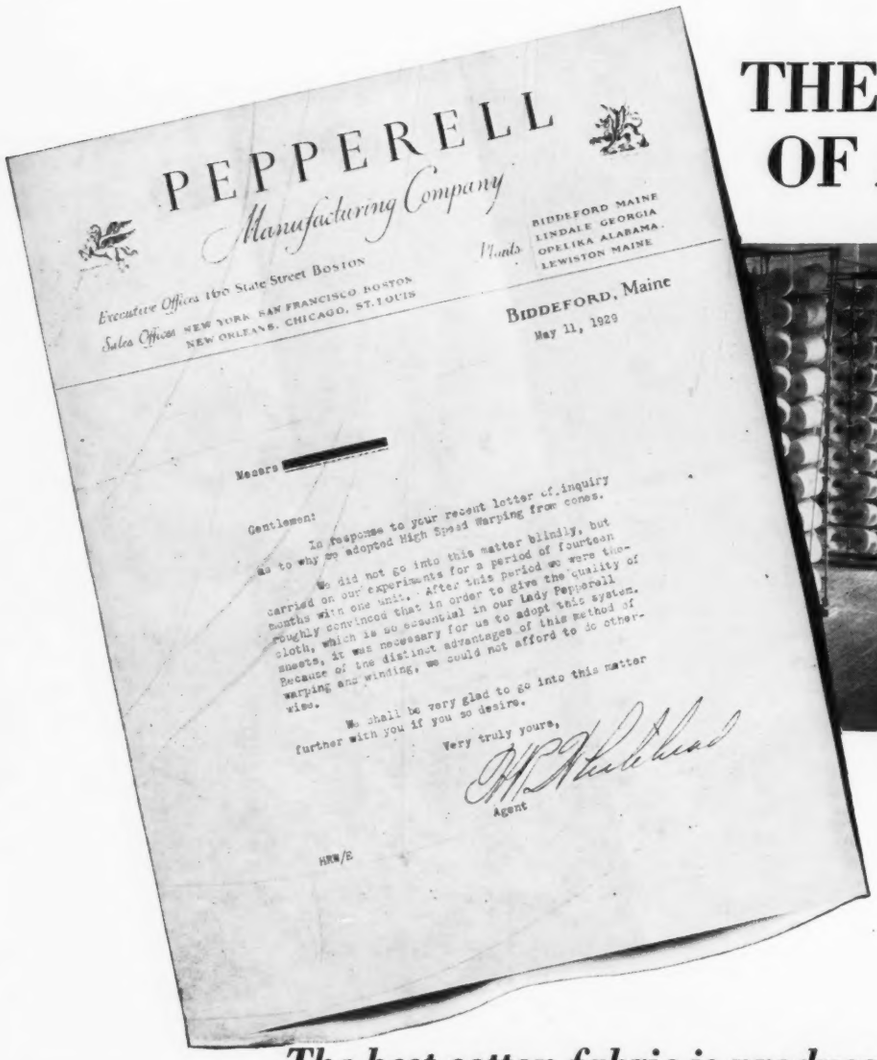
THE VERDICT OF A LEADER



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BIDDEFORD, Maine
May 11, 1929

Messrs [redacted]

Gentlemen:

In response to your recent letter of inquiry as to why we adopted High Speed Warping from cones.

We did not go into this matter blindly, but carried on our experiments for a period of fourteen months with one unit. After this period we were thoroughly convinced that in order to give the quality of cloth, which is so essential in our Lady Pepperell sheets, it was necessary for us to adopt this system. Because of the distinct advantages of this method of warping and winding, we could not afford to do otherwise.

We shall be very glad to go into this matter further with you if you so desire.

Very truly yours,

Agent

HRW/E

The best cotton fabric is produced by

1. Removal of imperfections by the use of adjustable slubcatchers.
2. Winding cones for overend delivery at high yarn speed.
3. Continuous supply of yarn from Magazine Creel.
4. Every yarn drawn through tension plates with uniform pressure.
5. Result — better section beams — better loom beams — best cloth.

The above results are obtained by the Universal method of handling warp yarns

UNIVERSAL WINDING COMPANY
BOSTON

323

UNIVERSAL WINDERS

Now, perhaps I might clear that statement up a little bit. What I mean is that machines which are operated continuously, or nearly so, will produce fewer rags and defective stockings than those operated on a daytime basis only. Whether or not the difference in percentage would amount in every case to as much as 20 or 25 per cent, is of course debatable. Naturally, I do not mean that, for instance, if the percentage of rags on a day shift were 10 per cent, there would be no rags at all on a day-and-night basis. What I do mean is that the day and night basis would give 20 or 25 per cent less waste than the 10 per cent waste mentioned, or 7½ to 8 per cent net. The reason for this saving in imperfects and waste is due to the fact that machines operated continuously always run better than those which run in the daytime only. Machines always run better when they are warmed up, and naturally a machine operated continuously stays warm all of the time. When running on a day shift only, the machines cool off during the night, and always make a considerable quantity of waste and imperfects when started up in the morning on account of the needles and parts being cold and stiff. Of course the machines will wear out sooner, and eventually make more waste when they become old, but I am referring to machines which are reasonably new and in good condition.

CONTRIBUTOR NO. 5042.

How to Use Developed Black.

This contributor tells how to dye with developed black in a Monel metal machine successfully.

EDITOR COTTON:

I notice that a contributor to COTTON is experiencing trouble with spoiled goods after dyeing developed black in a Monel metal machine.

The developer used in dyeing developed black will react with any nitrous acid present to make an intense brown dyestuff, basic in character which will readily stain silk or Celanese as well as cotton or rayon. In addition, the machine is possibly coated inside with a coating of grease, sericin and soap from the boiling-off of the goods. The acid used in the diazotizing process may be setting free some fatty acids which may combine with the brown basic dye formed as mentioned. When boiling-off the next batch these acids will pass into the dyebath and the brown will stain the goods.

The remedy might well be to clean the machine thoroughly previous to starting the dyeing of the black; also, to reduce the amount of sodium nitrite and sulphuric acid used. Some text books advocate the use of five per cent sulphuric acid, but this is much too high. I have found three per cent of sodium nitrite and three per cent of sulphuric acid to prove very satisfactory quantities. After diazotizing, and before the developer is added, the goods should be very well washed to reduce the amount of nitrite left in the goods as far as possible. The percentage of developer used could be reduced to one per cent or less.

This basic brown, once formed on the coating of grease in the machine, is difficult to remove. It cannot be stripped in hydro-sulphate or any other stripper except chlorine. The use of lime chemic would be bad in a machine containing soap, but sodium hypochlorite would be safe provided the machine was well washed. A strong solution of caustic soda at the boil will cut the brown out but one treatment would not be enough since the caustic decolorizes the brown without entirely removing it, except by repeated application. But with a clean machine, the minimum of acid and nitrite, and a good wash between the nitrite and the developer, the basic brown will not be formed in quantity sufficient to cause damage. Soaping the goods after development will help to remove whatever brown is formed.

CONTRIBUTOR NO. 4957.

What is Right Pitch for Narrowing Machine?

An interesting question which full-fashioned men are especially urged to discuss. We shall be glad to have your ideas.

EEITOR COTTON:

I would be glad to have you get for your "KNITTING KINKS" department the opinions of some full-fashioned men as to the proper method to use in determining just when you have the right pitch on a narrowing machine frame; that is, how can a fixer tell when he has the narrowing frame set in the right pitch? I find that many suggest using a standard textile gauge for the purpose, but up to now I have not been able to locate a standard gauge for this. It seems that every fixer and erector has his own marks, and you will find ever so many gauges with three or four marks.

So far as I know, the right specifications are two degrees off of vertical when at rest, and six degrees off of vertical when at the lowest stroke, or the bottom. But how can one tell or measure this pitch? I will appreciate some comment along this line.

CONTRIBUTOR NO. 5073.

Among the Knitting Mills

AT THE plant of the Utica Knitting Mills, at Anniston, Ala., 28 new circular knitting machines are being installed, it is reported.

It is reported that the Volunteer Knitting Mills, Athens, Ala., will resume operations this fall.

Hudson Silk Hosiery Co., Charlotte, N. C., plans to build a $100,000 addition to the North Brevard St. plant and move the equipment to it from the South Boulevard plant. F. Seifart is president.

The recently completed dyeing and finishing plant of the Asheville Hosiery Co., Asheville, N. C., has been put in operation.

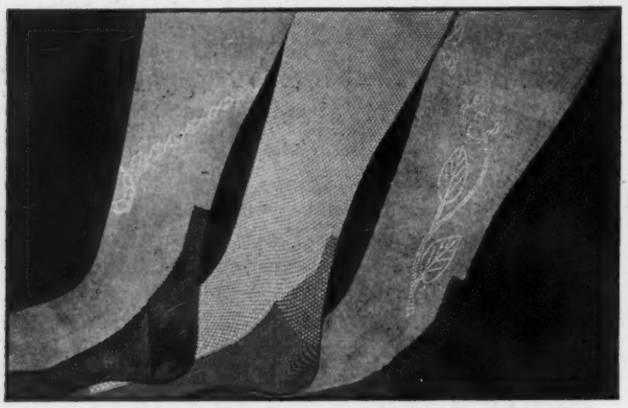
Penn Hosiery Mills, Inc., Burlington, N. C., have added 40 new machines to their equipment.

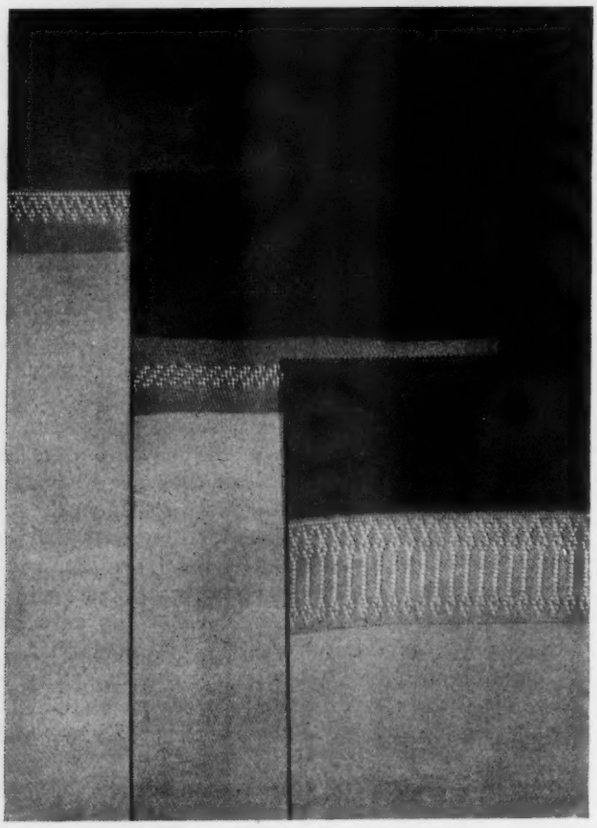
Pickett Hosiery Mills, Inc., Burlington, N. C., have installed 40 new machines.

Baxter Knitting Co., High Point, N. C., has been incorporated by C. B. Baxter, C. A. York, and W. L. York. The capital is $100,000.

Surry Knitting Mills, Mount Airy, N. C., are installing machinery to manufacture sweaters and bathing suits.

Get *away* from PRICE COMPETITION





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. . . made on any machine with the

REINER UNIVERSAL LACE ATTACHMENT

Mills offering lace welts, lace clocks and fish net hosiery are reporting business brisk. And leading stylists everywhere predict that mills knitting these distinctly feminine fancies will find brisk business continuing for those who are filling this national feminine demand.

Equipment for lace welt production is simple with the Reiner Universal Lace Attachment. Constructed to fit all makes of full fashioned machines, this Reiner attachment quickly lifts price competing machinery into the profit producing class. The cost of this attachment is low enough to be quickly written off by the better selling hosiery it produces.

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HOSIERY MACHINES

The KNIT GOODS MARKETS

SOUTHERN HOSIERY mills are said by some of the wholesale distributors of hosiery in New York and Philadelphia to benefit by the confusion in the primary markets for full-fashioned goods over wage reductions agreed upon between one group of manufacturers and the hosiery workers' federation, with an understanding that relative reductions would be made in prices of hosiery by this manufacturer group.

The manufacturers, organized as the Full Fashioned Hosiery Manufacturers of America, made announcement September 14 of reductions averaging 40 per cent for footers, leggers and toppers. This was said to conform to the program of the workers federation which in a special convention adopted a resolution for a 45 per cent reduction for footers, 35 per cent for leggers and 30 per cent for toppers.

It was the understanding, as per official announcement, that the scale was to be incorporated in an agreement between the manufacturers' organization and the hosiery workers' federation, and that the manufacturers would announce a reduction in their prices for hosiery. It was the deduction of the trade that these prices would be lower than those of open-shop and non-union mills.

Before the agreement could be executed, the reductions then not having been ratified by a referendum vote of the federation, the Berkshire Knitting Mills announced to the trade that it would reduce neither wages nor prices of its lines of hosiery. Subsequently, in a letter under date of September 11, John Nash McCullaugh, general manager of the company, advised buyers of hosiery for the trade as follows:

"An extremely ambiguous situation has been created by the dickering of a small group of manufacturers making unstyled slow moving merchandise in Philadelphia that undoubtedly has left the wrong impression on the minds of buyers. This letter is to inform you that the Berkshire Knitting Mills emphatically states that it will guarantee all its prices from now until January fifteenth. In the event of any unforeseen contingency arising due to lack of brains existing in certain sections of the industry which would force reductions in our prices, we guarantee that all prices quoted at the present time are retroactive to the first day of September against decline. We cannot guarantee against advance."

This was said to be the first time in the history of the industry that one group of manufacturers was reducing wages while others were trying to establish a scale intended to afford a fair living wage, Philadelphia open shop manufacturers having in the meantime taken preliminary steps for organizing the "Association of Full-Fashioned Hosiery Manufacturers."

It was realized that should the threatened cut go into effect and be followed by recessions in prices of hosiery accordingly, what had promised to be reassuring fall business might be demoralized. There was hope that the Berkshire guarantee might save the day for the industry in its relation to the market situation.

Some jobbers said the guarantee might not be necessary, that they were taking in only small lots and receiving frequent shipments, much of their consignments coming from southern mills via motor truck, which was intended to effect a saving in time over rail shipment and facilitate hand-to-mouth operating. Drawing from mills in and near Philadelphia and from the South, jobbers said, they believed turnover would be so rapid that a change in prices could not affect goods which had been received or might be in transit. The jobbers stating their prospective position in the event of further confusion say they are interested particularly in medium service weight stockings.

Conditions for Some Manufacturers Improve While Doubt over Prices and Chaos Continue.

FORECASTERS who had been looking forward to October as the crucial month in determining the near future of conditions in the full-fashioned hosiery industry were confronted by new situations in September which supplied ground for an inference they might be within bounds in their designation of a period during which a crisis might be looked for.

Events having an immediate bearing on the markets for hosiery followed in unexpectedly close succession, beginning with the proposal in one quarter for a drastic wage reduction and announcement by the Berkshire Knitting mills of an intention to reduce neither wages nor prices for its hosiery. Cuts in operating cost of numbers of mills were forecast some time ago, and discussion of the matter kept the market outlets for hosiery clogged with doubt, incident to which prices of some mills made new descents and many leading stores credited with having far-seeing buyers were able to widen their margin of profit, notwithstanding as keen competition as ever was witnessed.

But it became apparent, as chaos continued, that conditions for many manufacturers were not as distressing as painted. Toward the end of September several well known mills selling to the retail trade nationally under widely advertised brands resumed operating their plants, after an idleness of a few weeks in keeping with a policy of manufacturing only against orders. Meanwhile some may have been hurt, but a greater number found they had been more scared than hurt.

It got to be a common expression later among manufacturers shipping out a fair per cent of capacity production that "Yes, we're running, and expect to as long as we receive orders." Manufacturers had made a start at solving their individual trade problems. And it was one of the more hopeful phases of the marketing situation that, instead of competition in price at the expense of profit, mills were competing in construction or features giving to their lines more of the

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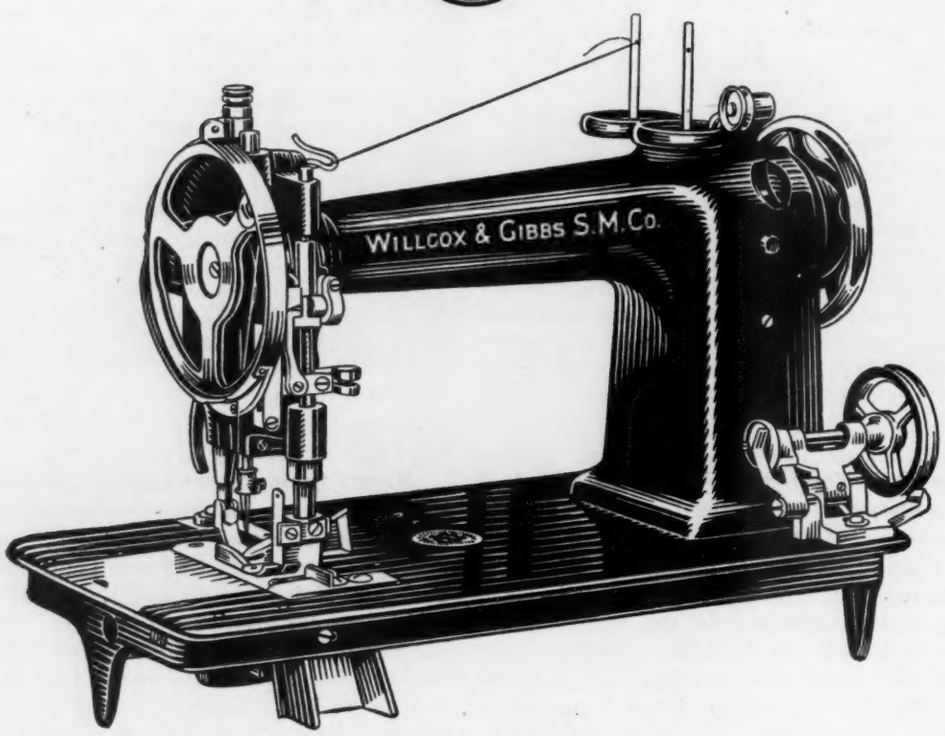

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distinctive in character.

The Harron Hosiery Mills, Philadelphia, for more than a year specializing in crepe stockings, for which the owners were awarded a patent, has not reduced its price to dealers, it was stated quite recently. Retailers continue to sell the stocking for $1.85 and the mill, at the time the statement was made, was in full time production. Of course, the Harron crepe line may be regarded not a criterion, being without competition in certain points claimed for this number. While sold directly to retailers, the stocking is not widely advertised.

The Rodgers Hosiery Mill, also a Philadelphia institution, selling to jobbers, has for some time been maintaining a two-shift schedule, keeping the plant in operation virtually day and night. This is but one of a number of mills which might be used for illustrating the point that while there are some sore spots on the full-fashioned body, industrially speaking, there also are numbers apparently escaping the pain of depression, a term that now seems to have been overworked and given an exaggerated meaning.

New Creations in Full-Fashioned Hosiery Conform to Theory Trend is Toward Styling.

THAT THE full-fashioned industry is working toward emergence from an epochal evolution seems not improbable. At the moment, style is to a greater degree the dominating factor in a manufacturer's success with volume production. Mesh hosiery has had a phenomenal run, comparing with its sales in recent years, and certain types of mesh were no less popular in the initial preparations for a brisk fall business than at their peak for the season.

Fancy hem and whatnot in lace effect have a firm grip on feminine fancy and are doubtless established as a winter vogue. Some interests feared the longer skirt innovation might detract from the sales of fancy tops for women's stockings. Not so; they will be worn, say style forecasters, so long as nothing more appealing makes its appearance while women are dress-conscious; although lace tops when in service may be rarely on display, and are not intended to be.

Triflex is the name given to a new type of full-fashioned stocking recently off the machines in the Onlibest Hosiery Mills, in Berlin, N. J., a Nickels & Lauber enterprise, which is an outgrowth of a mill in Philadelphia of that firm. The triflex is a single welt stocking, and the top shows unusual flexibility; in fact it is claimed that it possesses triple flexibility, and that would appear to be true. The top is produced on full-fashioned warp machines, of which it said there are but six in this country, and five of them owned by the Nickels & Lauber organization. The stocking, 45-gauge, is of high twist silk all over and carries the picot edge. It went on sale in the John Wanamaker Philadelphia store about October 1, priced $1.75 a pair. Wanamaker's guarantee a new pair for every run. In working out the construction of the stocking, it appears, the Onlibest designers conferred with O. M. Gaiser, hosiery and underwear buyer for the Philadelphia John Wanamaker's, who previously had passed on the weltless stocking of John Botts.

It appears to be somewhat of a puzzle to properly price silk full-fashioned hosiery since the declines in the rates for ingrain. The latter, selling in a few stores for $2 a pair, are seen in a few establishments for $1.75, and according to some authorities, that will be the fall price for 45-4s of standard construction of leading makers of ingrain silk stockings. It is recognized that hosiery of dull twist dipdyed has got to be of exceeding fine gauge to fetch $1.75, and it is coming to be more difficult, too, to get more than that for ingrain.

A standard line of four-thread 48-gauge picot top, all-over silk of 20 turns to the inch, is selling regularly in some of the better stores for $1.75, comparing with one dollar a pair for four-thread 45-gauge genuine grenadine on the counter of a leading store recently as the pulling feature of a special sale.

Stylists Not in Accord on Fall Shades.

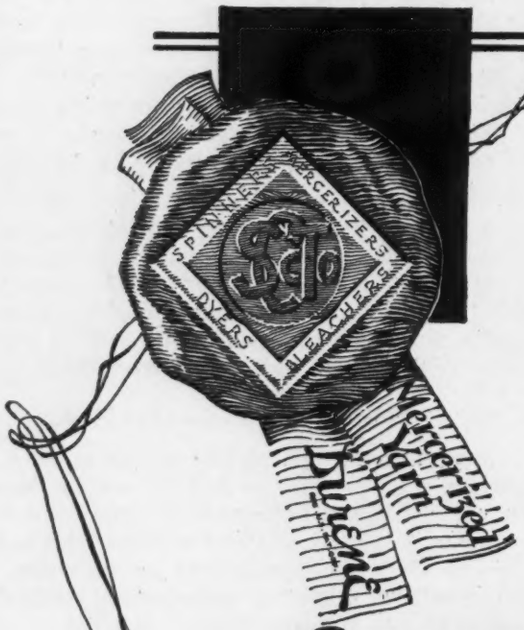
Manufacturers and stylists appear at sea on the question whether shiny or dull silk will be the vogue for winter. One manufacturer of ingrain hose recently exploited dullness, and later regretted this had been done, as his stylist has declared for the sheen. Now the stylist of a leading metropolitan establishment specializing in high class hosiery says dull.

John Botts, who is more widely known as president of Harrington and Waring, hosiery mill agents, New York, than as an executive of the Fidelity Knitting Mill, in Philadelphia, has been favored with a great deal of publicity over his weltless stocking, which is being introduced to the consuming public by some of the leading department stores and other large retailers.

Mr. Botts reasoned that a double thickness of fabric was not needed for keeping the legs warm, so why encumber a stocking with a few inches of extra thickness? But he uses a heavier fabric, for strength, knitting a 10-thread hem in a 4-thread chiffon, for example, balancing the top with the body of the stocking in the matter of weight of silk. Among the claims made for the weltless are that, for women who prefer to "wear 'em rolled", it provides more comfort than the double fabric when rolled. This is stressed as an adaptation whereby women who want to appear barelegged will be less likely to wear no stocking at all. Besides, it is stated, the cost is somewhat less. And as Mr. Botts has applied for a patent for single fabric top full-fashioned stockings, there is possibility for a controlled output, by which to hold it virtually safe against the tactics of professional price wreckers.

Predicts Sleazy Future for Mills Making Staples Lacking in Modern Equipment for Fancy Hems.

THE EXECUTIVE of a direct-to-retailer mill that is nationally known, and who is as close an observer of style trends as he is of the character of his product, predicts merciless competition among mills equipped virtually as was common a half dozen years ago. In his judgment it already has been demonstrated that there is a glut of plain hosiery with no feature other than the picot, and as relatively few mills in this class are installing modern equipment for replacing the obsolete, he holds, there will be a relatively larger supply



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of the types of stockings they are making, as, logically, there will be a trend to the accepted styles as they come out, and this means, he says, more women will be found wearing fancy hem hosiery. The manufacturer quoted instances plants which have 100 per cent installation of high speed machines and full lace equipment, which, being in a minority, he believes, may count on a fair amount of business for the fall months, which should begin to develop at a fairly lively rate this month.

Well before the end of October, it is figured, it should be possible to approximate the effect of the Berkshire Knitting Mills' announced decision to guarantee its prices to January 15, making no changes in its September list unless believed to be necessary for meeting any cut that might be made by any manufacturer rated a factor in the market. By November, it is argued by some market observers, provident manufacturers will start a program of curtailment, if necessary, for working toward a light year-end inventory. Thus, these interests figure, by the end of 1931 there should be presented a reasonably fair basis of calculation as to the outlook for the full-fashioned industry in 1932. That it will not experience as perplexing conditions as have prevailed this year is rated a "large probability".

Philadelphia Manufacturers Organizing.

Philadelphia is and for some time has been recognized as the hub around which will revolve the more serious price problems—that is, serious for the manufacturers engaged in that city. This is the opinion of the trade in Pennsylvania, it appears from casual statements, and it seems to be supported in efforts a movement for organizing the Philadelphia manufacturers with the sole object of stabilizing prices and maintaining comparative steadiness. The larger mills, with less than a half dozen exceptions, are taking part in the movement, which was launched at several meetings in September and is expected to show results in October, after the proposed "Association of Full Fashioned Hosiery Manufacturers" has been incorporated.

Golden Belt and Berkshire Linked in Wish.

While last available reports presented nothing definite in the way of organization progress and possessed no significance as to the proposed ramifications of the work of the association, it is regarded not unlikely that the project is intended to be national in scope. It is pointed out, in support of such a view, that it were better for the trade at large that hosiery prices be adjusted as nearly as expedient to Philadelphia levels than that Philadelphia prices be revised downward, to jibe with those where lower rates prevail. In any event, the ball seems to have started rolling in a movement by which manufacturers may accomplish what was aimed at last year when a mid-west organizer proposed the organization of an open price exchange, with more or less red tape and in danger of running afoul of a government order to cease and desist.

The plain inference to be drawn from the Philadelphia proposal and the attention being given by manufacturers generally to means for lifting the hosiery industry out of the rut into which it sank under

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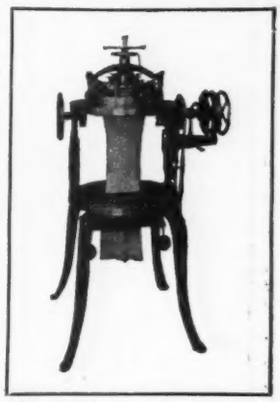

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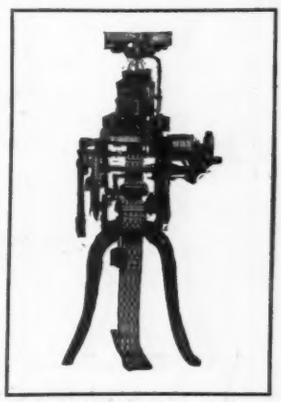

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an excess of expansion, is that mill chiefs generally are for the first time headed seriously toward some sort of trade arrangement for common good—a perhaps bitter dose for interests which have been disposed to antagonize rather than court exchanges of confidence.

There has been heard the wish that the Golden Belt Manufacturing Co., Durham, N. C., and the Berkshire Knitting Mills, Reading, Pa., might co-operate for averting unnecessary price changes, as representing the sentiment of southern and northern interests for establishing a common ground for all, irrespective of sectional location. According to some leading buyers for the trade, southern mills have avoided price competition during the troublous periods in the hosiery primary markets.

Styling in Infants' Socks.

Notwithstanding the price uncertainty and a more perplexing market situation, orders for hosiery showed seasonal increase in September. But it was apparent buyers were so restricting their commitments that they would be receiving no high price hosiery in a low price market, should the developments trend that way. Goods to retail in the recently established low price range, beginning at 59 cents, continue to be offered in abundance, but quotations are subject to fewer changes, doubtless because to continue to get under them would make a transaction in hosiery resemble a gift enterprise.

In conformity with the trend to styling hosiery, infants' socks in original fancy concepts made a belated appearance in the primary markets early in September. These innovations are confined to the cuff tops, which are finished with a form of picot in two-tone effect in harmony with a variety of narrow circular striping. Just below the break to form the cuff, the top contains a band of crochet stitch, suggestive of a fancy top inspired by the lace hem for women's lace top stockings. Besides the color combinations, the stripes, by reason of their position, add to the wide assortments of designs. For example, the stripe may be immediately below the point where the roll begins or in the body of the leg in proximity to the picot. The new tops are product of a Fidelity Machine Company device, the use of which, it is understood, is for the present confined to a relatively few mills.

The features which distinguish the new numbers of infants' socks obviously add somewhat to the production cost, but it is understood this is insignificant in contrast with the selling pull which they provide, and that by reason of the output being in a way restricted, buyers are inclined to consider commitments for larger quantities than of the more nearly commonplace, although there may be but a slight difference in the prices to distributors.

Jobber Not Friendly to Mill Brands.

A knit goods jobber who ranks among the more active and who had unsatisfactory experiences with two lines of goods sold under mills' brands, is having another kind of experience with men's half-hose unidentified to his trade except by a trademark of his own. Sales have been satisfactory, he states, but deliveries have not, partly due to his buyer under-estimating needs and also to an oversold condition in the mill which supplies the line.

After this jobber had established a considerable business in a branded line of children's underwear, he states, the manufacturers decided to sell direct to retailers, and he had to battle with his customers when offering a substitute, as has been the experience with numbers of distributors. Then he decided upon brands of his own, and sales of half hose under his trademark have justified the change, he says. On one very recent occasion, he states, all the several pivotal numbers were oversold and there was a waiting for deliveries. But this was not nearly so distracting as to have the children's underwear line taken from him after his house had built up an extensive trade in it.

The management of this establishment is the less kindly disposed toward mill-owned brands since making the discovery some few weeks ago that a concern in New York, while still exploiting its trademarked goods, was using a cheaper form of construction for getting under the prices of a rival selling to the retail trade.

There is ample evidence that, although cost of raw and semi-raw materials for textile manufacturers has not been so low in many years, it often is necessary to sacrifice value in order to accommodate an element of the buying fraternity. This, it is pointed out, and brooks no denial, is dangerous business when branded goods are purposely cheapened, for a temporary advantage. There is little of it in hosiery, and seldom is alleged against a manufacturer by anyone competent to lay an accusation of this character. But admission is not uncommon that some lines of knitted outerwear would not bear comparison with last year's products, of some mills, dealers being responsible for substitutions by which to effect a reduction of less than 10 per cent in manufacturer's cost. But it cannot be said on authority that any of the sweater manufacturers have willfully imperilled the value of their trademarks in knitting coats to fit buyers' prices.

Heavyweight Underwear Manufacturers Turn Price Corner After Cotton Declines Following Estimate.

MANUFACTURERS of heavy weight cotton ribbed underwear for men and boys seem to have made a fairly successful turn of a rather sharp corner. Confronted for a time with a possibility of more downward revisions of prices by reason of the sentimental effect on buyers of the market situation as to raw cotton, manufacturers appeared to be in a state of mind bordering on panic. The break in cotton proved, however, to be less serious than was looked for, and underwear mill heads for once, as an outstanding action, decided lower prices were not necessary. And, later, with the gap between production and consumption so narrowed that any material delay in contracting might reasonably be expected to work to the advantage of manufacturers, there developed a still firmer attitude on price maintenance. The trade escaped the confusion which would have followed further cuts.

The buyer detour was made at a loss of time to mills, of course, but the positions of the latter may be

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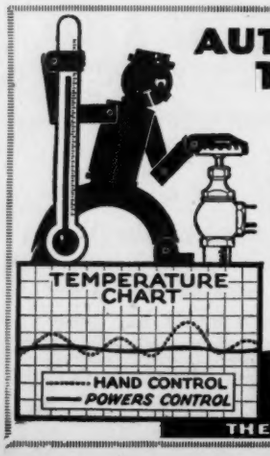

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regarded the stronger because of the relatively large purchases which must be made by leading jobbers to protect their needs, variously estimated at 50 to 60 per cent of what ordinarily is required for the season. One authority representing manufacturers of the better grades of underwear believed at that time that 40 per cent of estimated requirements had been contracted for and that stocks in mills then were around 20 per cent of what would have been needed to take care of late fall orders. Under this estimate, which may be regarded as no wider of the facts than those of most underwear statisticians, at least 40 per cent of the heavy weights which would be normally needed for filling out for winter remained to be manufactured—that is, making allowance for the extent to which economy may be practiced for the coming cold months.

Higher than average summer temperatures, their duration for longer periods and a final wave of excessive heat in September have, obviously, retarded the movement of winter weight underwear into distribution, and prolonged the 1931 season for light weights. It is known that certain important jobbers figure on reduced sales of heavies and larger distribution of summer and medium weights during the 1931-32 winter. Where there have been normal shipments to jobbers, consignees are protected against declines, by manufacturers of certain branded lines for which they are given exclusive distribution in given territory. Aside from the protected trade, deliveries have been light, speaking generally, and it may be a few weeks later before jobbers will be able to approximate the requirements of the retail trade.

The opening of men's spring underwear, postponed until rather late in September, hardly could have been staged earlier, with any prospect of appealing to buyers, who, it was realized, figured on lower prices and might be assumed to defer commitments as long as possible for effecting a revision in rates. Men's light weights are less a seasonal item than are heavies, it is reasoned, and are salable the year around, so that with the dawn of spring there are stocks in most retail stores such as are necessary for maintaining assortments during winter. Thus, buyers reason, there is less need for haste in providing for their spring deliveries.

During the several weeks in which the opening was being seriously discussed, there was said to have been some undercover buying for overlapping nearby and early spring needs. Some leading mill men were receptive to offerings of side door orders, at confidential prices, as in this way they were able to form a pretty accurate idea of about the level at which buyers might be expected to operate following the formal opening. The situation seems to have been well handled, for all interests, with the result that the confusion frequently incident to a soft market probably may be safely said to have been sidetracked.

From the Mohawk Valley section of the underwear field comes an intimation that there is increasing dissatisfaction with certain types of rayon underwear and that there is developing a more widespread interest in cottons, notably for men, although it is stated in various quarters there is and for some time has been a trend to combed cotton yarn for displacing rayon in women's lines.

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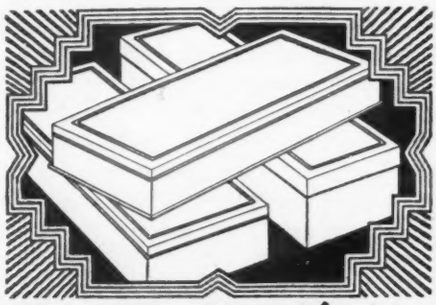

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The YARN MARKET

Philadelphia, Sept. 19th, 1931.

IN THE ABSENCE of developments of a constructive character, the Philadelphia cotton yarn trade has been able to extract a grain of comfort from the fact the chief factor in continued ultra-cautious buying for consumption is the size of the cotton crop in correlation with consumption. From this it is deduced that yarn buyers will proceed, as in the recent months, to measure purchases by absolutely known needs and the approximate safety of their long-time contracts for finished goods.

The bale crop as estimated by the government surveyors as of September 1, in the report of the 8th, might be a few hundred thousand bales more or less and have no effect on the attitude of traders. It has gotten to be viewed as bordering on the humorous that buyers believe, or affect to believe, that cotton will sell for less than six cents. At that figure, it is maintained by sellers, current yarn prices would be on a parity with cotton. Accepting the views of almost any authority, the big fellows in the local cotton yarn trade advance only a very few reasons why buying of yarns should be on the basis of "one hand to the other." One is a possibility of a buying movement being precipitated by a belief taking root among a strong element that cotton is at last cheap enough to be taken for "putting away" for a time, with little risk, which necessarily would give prices a lift. Another is a scarcity of popular numbers for immediate shipment as spinners reduce their stocks, in which event some sellers might obtain a premium for preferred deliveries.

There has been a fair amount of trading in case lots of knitting yarns since cotton became apparently settled following the September estimate of the weight of the crop. Where quantities of 10,000 pounds and upward have been under consideration the business went to the low bidder, in instances on a difference of less than one-eighth of a cent. A buyer of a small spot lot of coarse single carded on cones in the first week of September paid over a half cent a pound more for a larger lot two weeks later. This was one of a few refreshing incidents in the month's trading. Sale of a considerable lot of underwear yarn was lost on spinner's inability to meet buyer's shipping specifications.

Carded yarns on cones were fairly steady, at around 14½ cents for 10s, for the greater part of last month, a number of sales at a half cent less being recorded. Underwear manufacturers were buying for heavy weights, and later placed some business in fine counts and single combed peeler for light weights. According to the more important local houses handling the range of carded, weaving numbers have been in relatively lighter call. Two-ply 20s warps at 17 cents and 30s at 22 cents were believed priced at all they would fetch. Tapestry mills were doing some buying, but orders were to be regarded as absolutely safe as to quantity and value, from buyer standpoint. Double carded 30s have been in slow movement at 22 cents.

Prices for combed peeler singles were twice revised downward within a period of several weeks, until .8s came to be quoted 22 cents, finer counts for underwear being sold on a reported slightly lower basis.

Two-ply combed peeler mercerized is quotable on the basis of 58 cents for 60s, gassed four to 12 cents more, depending on the count. Quotations are representative of only the higher prices possible under circumstances favorable to seller exclusively. Lower prices are heard in connection with what sellers describe as a "gentlemen's agreement."

Philadelphia prices published on September 18th follow:

Single Skeins.

4s to 8s	13½	10s	14
12s	14½	14s	15
16s	15½	20s	16½
24s	18½	26s	19½
30s	20½		

Single Warps.

10s	14½	12s	15
14s	15½	16s	16
20s	17	26s	20
30s	21		

Two-Ply Skeins.

8s	14	10s	14½
12s	15	14s	15½
16s	16	20s	16½
24s	19	26s	20
30s	21	40s	27½

Two-Ply Warps.

10s	15	12s	15½
14s	16	16s	16½
20s	16½ @17	24s	19½
26s	20½	30s	21 @21½
40s	28		

Frame Spun Carded Yarn on Cones.

8s	13½	10s	14
12s	14½	14s	15
16s	15½	18s	16
20s	17	22s	17½
24s	18½	26s	19½
30s	21	40s	28
30s dbl. carded			24½
30s tying in			20

Carpet Yarns.

8s and 9s white warp twist	14½
8s tinged tubes	13½
8s part waste	12½

Two-Ply Combed Peeler Skeins and Warps.

8s to 16s	24	20s	26
24s	28	30s	31
40s	34	50s	37
60s	44	70s	54
80s	64		

Single Combed Peeler Yarns on Cones.

18s	22	24s	25
30s	29	36s	32
38s	33	40s	34
50s	37	60s	44
70s	54	80s	64

Mule Spun Carded Yarn on Cones.

10s	20	12s	20½
14s	21	16s	21½
18s	22	20s	22½
24s	25	28s	26
30s	27	40s	35

Combed Peeler Yarn on Cones.

10s	25	12s	26
14s	27	16s	28
18s	29	20s	31
22s	32	26s	33
28s	34	30s	35
36s	38	38s	40
40s	41		

Tinged Insulating Yarns.

8s-1	13	8s-2	13½
10s-1	13½	10s-2	14
12s-1	14	12s-2	14½
		20s-2	16 @16½

Announcing a New Feature

DAVID LAWRENCE

DAVID LAWRENCE is a name known to all business men. His weekly "class in government" over the radio is universally popular, because of Mr. Lawrence's fairness and nonpartisan viewpoint. As an authority on national affairs, he has earned a position of eminence, by his remarkable accuracy, his penetration, and his unceasing study of the background of events.

The publishers are pleased to announce that, beginning in this issue, COTTON will present a series of articles by Mr. Lawrence, entitled, "The Trend of the Times." In these articles, Mr. Lawrence will not attempt to discuss any particular business field, but will present information broadly of value to every business man, particularly as revealed by government information and action. We feel that the readers of COTTON will find his discussions of particular pertinence, and shall welcome comments from readers concerning them.

Plant Inspection and Maintenance

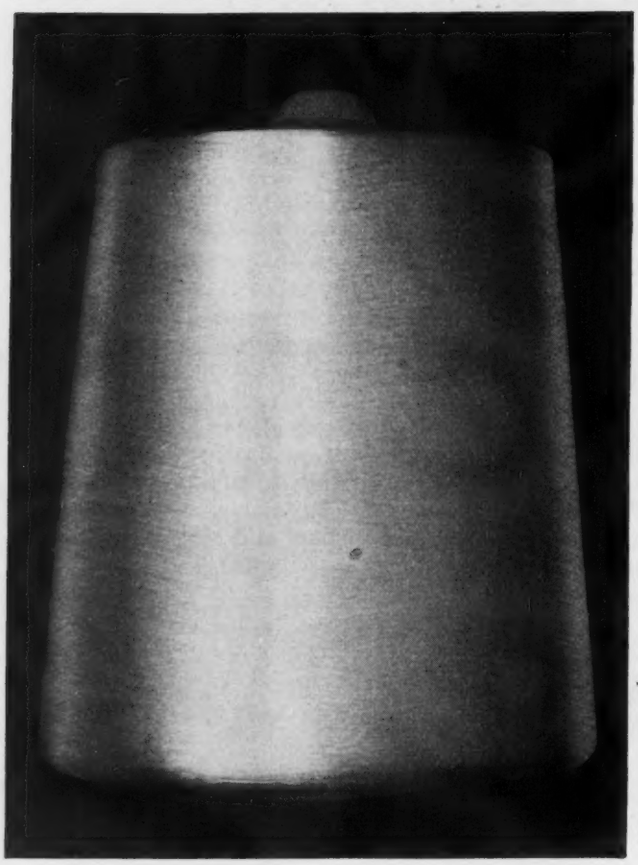
COTTON is publishing currently a series of articles on plant inspection and maintenance, by H. K. Hallett, general manager, Kendall Mills Division, The Kendall Co., describing the program used in the five plants of his company in the South.

Mr. Hallett has held his present position since 1928. He was graduated from Dartmouth College in 1914, going then with the Langley Mills, Langley, S. C. After a year of erecting looms for the Draper Corporation, he became overseer of carding at the Hickman Mill, Graniteville, S. C., in 1916; and in 1917, superintendent of the Wateree Mills, Camden, S. C. In 1924 he was made superintendent of the Thrift Mills, Paw Creek, N. C., and in 1928, general manager of Kendall Mills.

H. K. HALLETT

Premier Rayon

PREMIER INDUSTRIAL RAYON



Among the finest rayon plants in the country are those now making Premier Rayon. Modern equipment throughout, long experience, minute inspections, painstaking attention to detail and other precautions result in a uniform standard of quality which is as high as the industry knows.

[Are you receiving a copy of PREMIER RAYON REVIEW each month? It's an unusually interesting and attractive magazine, containing much helpful information about rayon and how to sell it. A post card puts you on the mailing list.]

INDUSTRIAL RAYON CORPORATION

General Offices: West 98th St. & Walford Ave., Cleveland, Ohio

Plants: Cleveland, Ohio; Covington, Virginia

5 MILES OF ENDLESS SATISFACTION

IN EVERY CONE of Premier Rayon there are five miles of unvarying quality . . . five miles of dependable uniformity . . . five long miles of endless satisfaction.

Premier Rayon invariably imparts to finished garments or fabrics certain evidences of outstanding quality which make a manufacturer confident of their performance, a retailer sure of their sales appeal, and a consumer pleased with their evident value.

The Textile Industry

SIGNS of gradual but steady improvement in the textile field, as noted by George S. Harris, one of the best-known figures in southern textile industrial circles, may be accepted by business observers generally as reflecting the results of careful investigation by one in position to gather accurate information concerning the manufacture of the South's greatest crop—cotton. It is encouraging to hear Mr. Harris, a member of the executive board of the Cotton Textile Institute of America, express the view that a definite upturn may be expected in the textile industry in the not far distant future. In fact, the situation in which cotton manufacturers now find themselves is considerably improved over that of a few months ago, when the industry was practically at a standstill in many of the most important southern industrial centers.

Certain very potent factors are apparent, Mr. Harris says, that must inevitably result in a general and continued demand for textile products. With such a demand, the industry naturally will experience a rejuvenation, and with the adoption of a program somewhat altered from that in practice for many years heretofore, the mills may be kept busy on a normal, steady schedule, balancing production with market demand and avoiding the piling up of huge stocks far in excess of requirements.

These are the symptoms in the present situation which Mr. Harris believes indicate a rapidly approaching period when the textile market must of necessity develop unusual strength because of greatly increased demand:

1. Absolute lack of stocks beyond the mills.

2. Only normal stocks on hand at the mills.

3. Reduction of purchasing by distributors on a "hand-to-mouth" basis.

4. Only slightly reduced public consumption.

5. Production cut by the industry to 50 per cent of capacity for the past eight months—the lowest point in history.

The net result of the combination of these factors, says Mr. Harris, is to bring about, inevitably, a veritable famine in cotton goods, which can be remedied only by a spurt in production followed by a period of sustained, stabilized activity.

Elimination of night work for minors and women, which is being brought about by general agreement among the mills, and which is expected to be accomplished throughout the industry by March 1, 1931, should go far toward preventing over-production and thus upsetting the economic balance between supply and demand.

The accuracy of Mr. Harris' analysis of the textile situation is borne out by the fact that many mills in the southeast are gradually expanding their operations beyond the scope of the past several months, and the prospect for continued improvement in the textile field seems brighter than at any juncture during the year now drawing to a close.—

Editorial in The Atlanta Journal, December 1st, 1930.

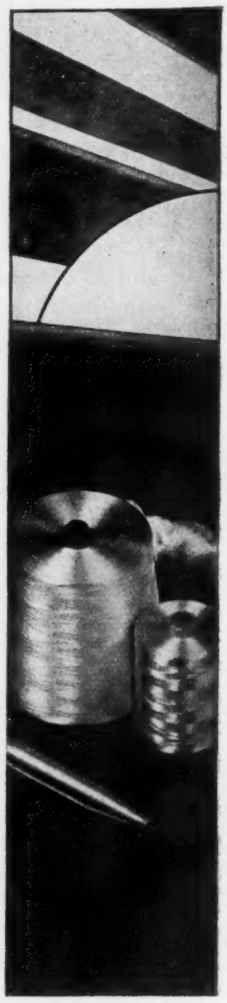
INDUSTRIAL
RAYON CORPORATION
GENERAL OFFICES:
9801 WALFORD AVENUE, CLEVELAND, OHIO
Plants: Cleveland, Ohio; Covington, Virginia

Facing 1931 *with confidence*

1930 is almost gone. It's been a challenging year—challenging the most astute manufacturing and merchandising instincts and abilities not alone in textiles but in all industries.

We are on the threshold of 1931. And rayon opens up even greater op portunities than in the past for mills that have the equipment and vision to carry on. It will be proved again, as in the past, that the incorporation of rayon in an ever increasing number of textiles means a better turnover and a quickened pace to net profits.

That alert weavers and knitters are facing 1931 with confidence is evident from their plans for the new year, the styling of their merchandise, their firm insistence upon quality materials and —the increasing use of Premier Rayon. The sales of this dependable yarn within the past few months have steadily increased, promising to set a new mark this year in Industrial's history.



Premier Rayon

A BUILDER OF GOOD WILL

Are you receiving a copy of PREMIER RAYON REVIEW *each month? It's an unusually interesting and attractive magazine, containing much helpful information about rayon and how to sell it. A post card puts you on the mailing list.*

With the Publishers—

The February Maintenance Number

¶Believing that proper maintenance of plant and equipment is an essential part of good and successful management; and that the present time especially emphasizes its importance—the February issue of COTTON has been designed as a Maintenance Number, and the leading articles in it will be centered around this theme.

¶In the selection of the subject matter, the paramount thought has been to indicate for the reader some of the more striking phases of textile mill operation in which adequate maintenance policies are necessary; and to tell of successfully applied methods used by some of the progressive organizations in the industry.

¶The maintenance of steam and electrical equipment in the plant; of finishing equipment; a description of a modern stock supply room in successful operation at a prominent Southern mill; a discussion of the painting standards and program of another outstanding group of mills in the South; a description of newer developments in heating and heat control—these are some of the subjects which will be covered, rounding out the consideration given to the thought, which was started in the publication of last October and November of a complete description of the Kendall Mills program of machinery, belt and electric equipment inspection and maintenance, by H. K. Hallett.

¶The contributors were chosen in each instance upon the basis of their own experience and results as to successful maintenance programs.

Homer Carter, Superintendent of the Pepperell Mfg. Company, Opelika, Ala., will discuss the maintenance of the mill's steam equipment, covering also the maintenance of air compressors and humidifiers.

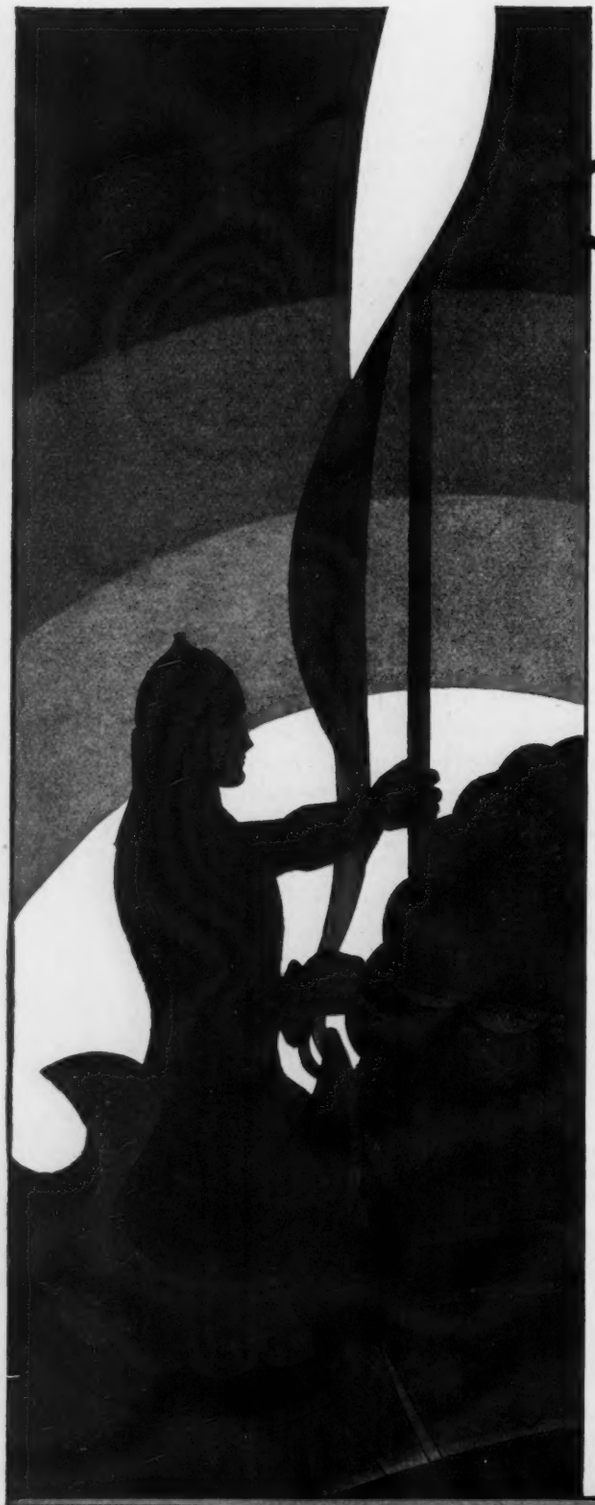
Robert B. Betts, chief engineer, Columbus Mfg. Co., Columbus, Ga., will handle the discussion of maintaining properly the electrical equipment of the plant.

Charles E. Doughtie, Jr., of Robert & Co., Inc., architects and engineers, Atlanta, Ga., will write of recent developments in the fields of heating and ventilating, and room temperature control, as applied to textile plants.

H. K. Hallett, general manager, Kendall Mills, with five plants in the South, will tell in detail of his company's program of painting, for mill and village; presenting a description of their investigations as to the kind of paint for each use, and the standards adopted for various purposes; as well as discussing the best methods of applying the paint; and of preparing the surface for painting.

Paul A. Merriam, chief engineer, United States Finishing Company, with plants in the North and South, will discuss maintenance as applied to finishing plants and processes.

Another article will describe and illustrate in detail a modern supply room, as it is operated by a well-known southern mill; explaining how supplies are kept and issued, inventories maintained, etc.



The CHALLENGE *of the* NEW YEAR

1931 is here—a new year with new opportunities, with promises of new accomplishments. • • This year presents a challenge—a challenge to salesmen to prove that they can sell . . . a challenge to executives to demonstrate that they have confidence in the future . . . a challenge to manufacturers, distributors and consumers to take affirmative action and speed the return of prosperity. • • Industrial accepts this challenge and looks forward confidently to what the new year will bring forth, believing that 1931 will reward those whose products, sales methods and services deserve reward. As in the past, we will do everything in our power to serve in a genuinely helpful manner all those who use Premier Rayon*.

INDUSTRIAL RAYON CORPORATION
General Offices: **9801 Walford Ave., Cleveland, Ohio**
Plants **. . . Cleveland, Ohio . . . Covington, Virginia**

* *Sales of* PREMIER RAYON *for 1930 were much larger than those of any previous year*

Premier Rayon
A BUILDER OF GOOD WILL

With the Publishers---

"Keeping the Plant Up and the Expenses Down!"

A GOOD slogan, that. One of our contributors in this issue presents it as the main function of maintenance in a finishing plant. In doing so, he has clearly identified the real purpose of maintenance, not only in the field of which he is writing, but in every other phase of the industry as well.

In his excellent article in our October 1930 issue, H. K. Hallett stressed the importance of maintaining plant and equipment, as a factor in the management of production. He pointed out that:

"A carpenter with a small kit of hand tools has a lesser 'maintenance' problem than a woodworking shop with $50,000 invested in machinery. Yet, even the carpenter, to do a good job, must keep the cutting edges of his planes and chisels keen and fit."

And, by the same token, any manufacturing unit, regardless of size, whether it is a plant or a department, has to consider the subject of maintenance. As Mr. Hallett pointed out, maintenance and inspection should be done better and better, in order that the whole manufacturing job may be done better and better.

Considering the present an especially appropriate time to investigate the subject's possibilities, this issue of COTTON is given over largely to the central theme of plant and equipment maintenance.

Painting, in keeping up the plant and village, is a job for universal study in the textile manufacturing and finishing industry. We are gratified that Mr. Hallett has again returned to our columns to discuss, in this issue, the complete details of the painting program employed in the southern plants of The Kendall Mills.

When to paint, what kind and color to use for a given job, how to prepare the surface for painting—these are some of the questions which confront the mill man, and Mr. Hallett has answered them according to the extensive and thorough experience of his organization.

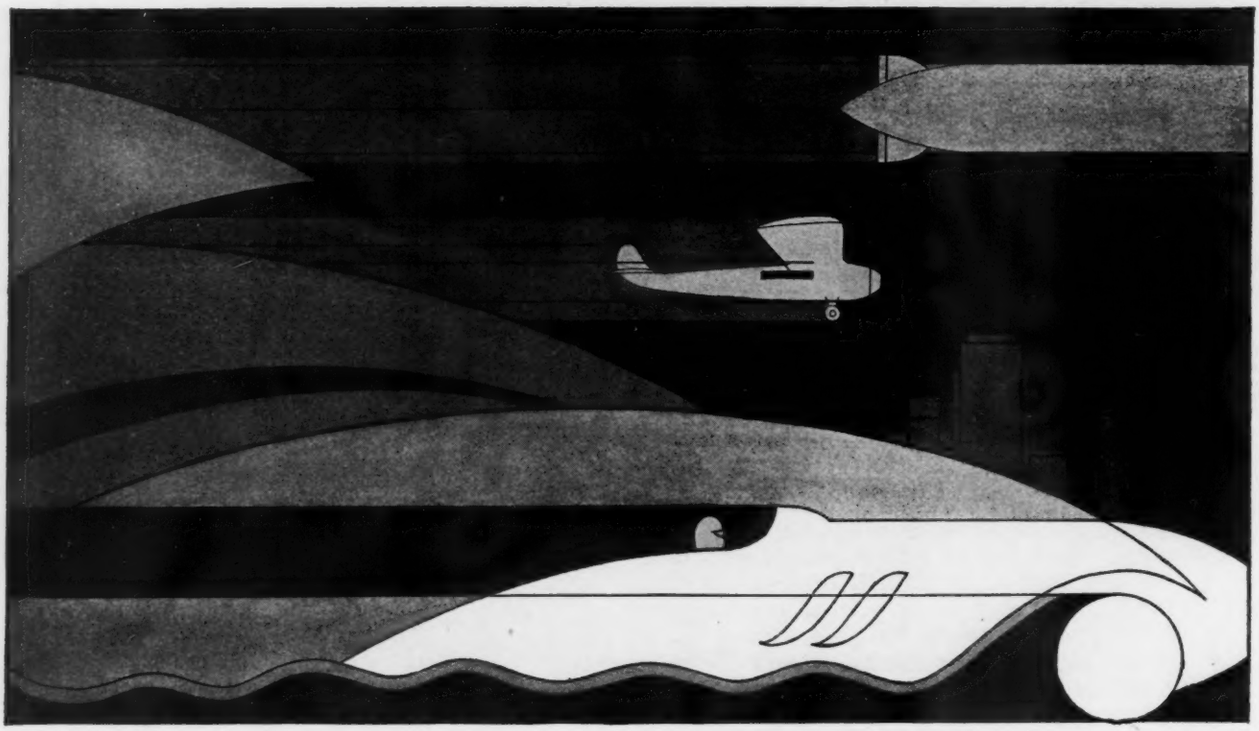
A mill's steam equipment surely deserves more careful inspection and maintenance than it receives at many plants. Homer Carter tells in another article in this issue of methods which he has found to be useful and necessary.

C. H. Baxter is in his usual form in his discussion of maintaining the knitting and other equipment in a full-fashioned mill.

Heating and ventilating—and room temperature control—are engineering subjects not clearly understood by all those who meet their problems. A very interesting discussion in this issue, by Charles E. Doughtie, Jr., manager of the mechanical engineering department of Robert & Co., Inc., traces the development of mill heating methods up to the present, and peeps a little ways into the future. The maintenance of these types of equipment is also discussed.

These articles, we feel, will intensify the consideration of mills as to the proper relation of true maintenance methods. Maintenance does not necessarily mean replacement, though in many cases replacement of equipment is the only logical thing to do; it may mean repairing or re-vamping.

But regardless of the particular application, it seems especially appropriate to bring attention to the excellent supply of maintenance aids and equipment available in the advertising pages of COTTON each month. Whether your maintenance problem involves new equipment, supplies, or a service, the chances are that you will find a reliable and worthy product for your purpose advertised in this magazine. So, while thinking of maintenance, we urge a regular and consistent study of these messages, in your efforts to Keep the Plant Up and the Expenses Down!



BUSINESSES *which* DRIVE AHEAD

Hope alone is inadequate in the present situation. Businesses that have waited for the "psychological" turn are still waiting; others are driving ahead. ◆ These "others" have sensed the difficulties of the present—the greater competition not only *within* industry but *between* industries. ◆ They have checked over their merchandise from the standpoint of quality, style, value. They have organized their services to customers so as to render the utmost in cooperation. They have built their sales organizations and planned their advertising to do a definite task and attain a definite goal. ◆ Such has been the policy of this organization. And it offers the utmost in quality of yarn ... in cooperation ... in service to all Premier Rayon users. Consequently ... Premier is going forward steadily to an increasing number of mills ... and in constantly larger volume.

INDUSTRIAL RAYON CORPORATION

General Offices: **9801 Walford Ave., Cleveland, Ohio** ***Plants:*** **Cleveland, Ohio; Covington, Virginia**

Premier Rayon

A BUILDER OF GOOD WILL

With the Publishers---

Behind the Scenes

THE OTHER NIGHT, while ensconced in an aisle seat at one of our ultra-modern cinema palaces, we reflected upon the immense amount of preparation on the part of actors, producer, author, and a host of others which was necessary in the creation of the finished product as it was unfolded, reel by reel, upon the silver screen—"back stage work," which did not appear in the picture itself. Later, it occurred to us that in this work of publishing a magazine, there is a parallel in the form of many activities, most of which do not contribute directly to the production of a magazine, and which are not apparent to the reader or client whose principal contact with this business is represented largely by the editorial article, the advertising contract or the subscription. Yet, they are all essential segments of the service which must be, and is, rendered to the field.

An excursion among some of these everyday activities which are constantly carried on while business is being solicited, subscriptions sold, and articles prepared for the inevitable next issue, may, therefore, be of interest as activities which are scarcely revealed in the magazine itself.

One revealing fact is that a great portion of our correspondence has to do with matters which seldom reach the pages of the journal. Here, as an example, is an inquiry from a manufacturer of a certain kind of industrial equipment, interested in the textile industry as a market, and desiring full information as to the possibilities for his product in this industry. Then, a visit from a New England producer of textile supplies who wants to know more of the market for his products in the New South. (N. B.—This service is becoming less necessary from year to year.)

A newcomer in the textile chemical business is interested in the approximate consumption of an acid or soap which he is considering as a product. A synthetic yarn broker calls up to ask for a list of mills which use rayon. What is the application, in the textile field, of a certain form of engineering service?, asks another caller.

An afternoon visitor may be the sales manager of a concern desiring to round out his industrial selling force, and asking to be put in contact with a reliable and established manufacturers' agent or commission salesman. Or, such an agent or salesman may want the address of and information concerning one or two companies whose lines he might add to his present representation to round out more fully his varied service to the mills to whom he sells.

A knitting mill wires in for the addresses of sources of supply for a certain number and kind of yarn. A cloth mill inquires for the address of a manufacturer of a particular kind of baling press, or electric truck.

A northern manufacturer asks advice as to the most strategic location for a southern office. Should it be only a sales office, or should warehouse stock be carried?

Quite frequently it is a pleasant duty to assist in arranging an itinerary for salesmen new to the southern field, and to make suggestions gained from contact with the field, as to the centralized locations of mills which would be most interested in some new product.

These are typical instances from the past few weeks which come readily to mind. Some of these incidents require considerable time, all of them demand — and receive prompt attention. In the meantime, we must devote ourselves to the routine activities of copy presentation, advertising solicitation, editing, "making dummy," etc.; to the getting out of a publication rendering a valued service to the textile field and to our advertisers.

But in addition, we endeavor to conduct an organization on which reader and advertiser may depend for more than technical and inspirational reading. And we are eager to contribute these complementary services, because we can realize how much they mean. Our conception of our job is to maintain and operate an institution which is a part of its field.

It is complimentary that many of our clients take for granted much of this service. Sometimes we are not able to furnish desired information or service; but we are gratified by the constantly increasing total of the service being rendered, and will make additional provisions when our physical limitations are taxed. Meanwhile, we greet every opportunity of service, large or small, as a definite obligation upon our responsibility to our field, and as a pleasant privilege.

Of Unusual Interest to the *Entire* Textile Industry . . . . . .

THE introduction of SPUN-LO is of unusual interest not only to those concerned with the manufacture and sale of products fabricated of synthetic yarn, but to the *entire Textile Industry.* The advent of SPUN-LO marks a turning point . . . the reversal of a trend; a trading up rather than a tearing down; the radical improvement of a product rather than its debasement. ◆ That is as it should be, for it is well to remember that this is a Nation of Quality Folks. ◆ While price is always an important consideration, it is essential for the good of the great Textile Industry and the wholesale and retail distributors of America to continue to build on a solid foundation of quality, rather than price alone. Therein lies the way to all worthwhile progress. In this building up movement Industrial is proud to take this forward step; we know it will have the approval of the entire industry.

SPUN-LO

. . . is admirably suited to every product in which any type of synthetic fiber has heretofore been employed. It is a yarn of genuinely superior excellence.

Further information will be given upon request.

Industrial Rayon Corporation

General Offices: 9801 Walford Ave., Cleveland, Ohio

Plants: Cleveland, Ohio; Covington, Virginia

With the Publishers---

Bill Jones and His Cotton Suit

THE story below, which points its own moral, is reproduced here from the July issue of "Termaco Times", house organ of the Terrell Machine Co., Charlotte, N. C. We can vouch for the accuracy of the facts contained therein.—Editor.

BILL JONES had a funny experience in June. When Cotton Week came around, with the papers full of advertising, Bill got all steamed up about cotton suits. He went down town to buy two or three.

The first store he entered, the clerk told him they did not have any cotton suits, but that they did have some nice ones made of linen. Bill turned up his nose and stalked out. It was cotton or nothing for him.

At the next store they told him they had one cotton suit, brought in especially for Cotton Week. It was white, and it did not fit Bill. Besides, he already had one white cotton suit, and it had to be laundered every time he wore it. He wanted a suit that was dark enough to wear for two days at least.

The salesman suggested that he could get another suit in a light tan, and Bill told him to go ahead and order it.

"What about getting some samples of dark materials?", asked Bill. "Sure, we will be glad to," replied the salesman, and he sent off a wire. That was on Monday. Wednesday came, and no samples.

Bill set out to visit the department stores, hoping to find some suiting which he could take to his tailor. The first store he entered showed him a beautiful pique in a dark blue. Back to the tailor he rushed, and they went to the store together. The tailor was loud in his praise of Bill's selection, and they decided it would take six yards to make the suit.

"Cut me off six yards," said Bill. The clerk ran the cloth through the measuring machine, and it checked up exactly five and one half yards. "Not enough," said the tailor.

"Is that all you have in stock?", asked Bill.

"Yes," said the clerk, "there isn't any more."

"Can you tell us where you bought this?"

"No, it doesn't have any identification mark. We have had this in stock for some time, and I doubt if we have any records which will show where we bought it."

Bill got a sample and visited store after store, trying to match it. He looked at all the other colors, and tried to find something from which he could have a suit made. There were bright reds, pinks, pale blues and greens, but nothing which Bill dared to wear in public. For pajamas, fine; for suits, not a sample.

But Bill was a persistent cuss. He had made up his mind to have a cotton suit, and he was determined to leave no stone unturned until he got it. He wired three mills, and called another on the phone, but all he got was:

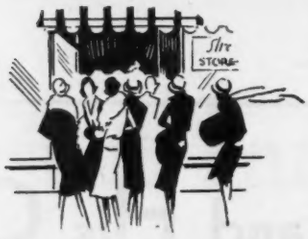
"We do not sell direct. Try someone who sells our goods. You ought to ask the stores in your town to carry our goods. If you will drive thirty miles to our retail store you may be able to find something which will suit you."

Bill explained that he wanted to have the suit made up by a tailor to prove that a cotton suit would look just as good as one made from any other material and that he did not have time to drive thirty miles in the hope of finding something which might meet his requirements, but the mill stood firm in its refusal to send him samples. They did not even suggest they would have their retail store send the samples, and Bill was so disgusted by this time, at the red tape and lack of response to his efforts to buy cotton suiting, that he hung up the receiver.

He wired New Orleans, having seen some swatches from there, and they wired back that they could not fit him from stock and could not make a suit in time to meet his requirements. He wired New York, and got the same reply.

Altogether, Bill spent nearly two weeks, and some considerable money, trying to buy a cotton suit. He came to the conclusion that if the mills manufacture patterns from which suits can be made they do not care to sell them. He thinks that if some mill really wants to make good cotton suiting, and will sell it to the stores, that mill would do a world of business.

Last year Bill spent one week locating a cotton suit. This year he spent two weeks Next year? Well, he is such an incurable optimist that he still has hopes!



····HERE'S WHY AN INCREASING NUMBER OF DEPENDABLE MANUFACTURERS ARE USING SPUN-LO

SPUN·LO

This *better* synthetic yarn means important production economies for mills because of its superior running qualities. It yields a high percentage of "firsts." ·· It is a product of unvarying dependability and excellence. SPUN-LO commodities attract trade through their distinctive appearance. They bring repeat business because of their exceptional wearing properties. ·· Such outstanding qualities increase trade, ensure good will, spell profits. SPUN-LO is of interest only to reliable manufacturers interested in building business not on price but on a fair, reasonable profit basis. ·· Aided by sound, helpful trade promotion, SPUN-LO is going over in a big way. Manufacturers find a ready acceptance among alert, forward-looking retailers. ·· *Send for further information about SPUN-LO and the opportunities it offers.*

INDUSTRIAL RAYON CORPORATION

GENERAL OFFICES: 9801 WALFORD AVENUE, CLEVELAND, OHIO .... *PLANTS:* CLEVELAND, OHIO; COVINGTON, VIRGIN'A

"Buy as You Would Sell"

IT IS AN accepted fact that prices must be based on costs. No line of business or industry can continue to render satisfactory service unless the prices of its products bring at least some slight margin over the actual cost of delivering such products; nor can it even continue to function long if selling prices drop below delivery costs.

This is so elementary a principle of business that it should not need repetition at this time were it not for the unbusinesslike, unethical business practices which unfortunately develop during a period such as the present.

Furthermore, it is generally recognized that the factor which is doing more than anything else to retard business recovery is the timidity of the buyer. Textile mill executives will agree as readily to this statement, insofar as the movement of their goods is concerned, as they endorse the previous statement. For the sake of consistency, however, they must recognize that this statement applies as forcibly to the textile mill and its purchasing policy, as to the prospective user of textile products.

In every line of business there seem to be purchasing agents, and other buyers, who take advantage of the difficult, almost tragic situation to play one source of supply against another; to seek special discounts, terms, rebates—concessions that could not possibly be warranted by costs, but which the supplier sometimes grants, in desperation, merely to help keep his business functioning and keep his employees on the payroll.

In view of the pernicious and disastrous effects of "price-cutting" in the textile goods markets, it would seem especially unnecessary to emphasize the importance of consistency on the part of mills in buying as they desire to sell—ethically, fairly, and at an honest profit to the producer. It would seem superfluous to remind the textile manufacturer that just as price-cutting disturbs and upsets his own market, so can insistence from him for unwarranted concessions, on the products he is buying, demoralize another major market. In the closely-knit organization of American business today, such an effect is certain to extend its ultimate influence back into the market of the man who started it.

It is within the power of everyone to do his part in speeding business recovery by adopting a more liberal buying policy. And with prices at present levels it seems evident that this is a most opportune time to purchase needed supplies, equipment and stocks of merchandise.

But, as stated, it is just as important to buy with a "live and let live" spirit. The textile mill which deplores unnecessary price concessions in its own market, and, taking advantage of a situation, forces such unwarranted concessions when purchasing its supplies and equipment, may in some circles be considered as "a good trader", but in reality, is, inconsistently, applying a brake to retard business recovery in his own markets.

The policy that will do more than anything else to expedite business recovery now is: buy the things that are needed, and buy with a consistent attitude of fair play.

Helpful Cooperation with *All* of our Accounts

No dullness has been experienced here at Industrial during the summer and early fall. August shipments made a new record high. They were greatly in excess of August, 1930, just as last year largely exceeded August of 1929.

Sales in September also were large in volume, and recorded a very substantial increase over the corresponding month of last year.

The reason for this consistent progress is simply explained. It comes quite naturally as a result of:

1. *Products of genuinely superior merit.*
2. *A Service Department that functions promptly, courteously and* knowingly.
3. *A Trade Promotion Department that renders effective marketing aid to mills and manufacturers using our products.*
4. *The most cordial, complete and helpful cooperation at* ALL *times to* ALL *of our accounts.*

INDUSTRIAL is the type of organization that progressive mills find great satisfaction in working with. If you are not now using our products we firmly believe it will be to your interest to discuss the character and extent of this service with our representative in your territory.

INDUSTRIAL RAYON CORPORATION

General Offices: 9801 Walford Avenue, Cleveland, Ohio *Plants:* Cleveland, Ohio; Covington, Virginia

EXCLUSIVE PRODUCERS OF

Premier Rayon and Spun-Lo

Among Cotton's Readers

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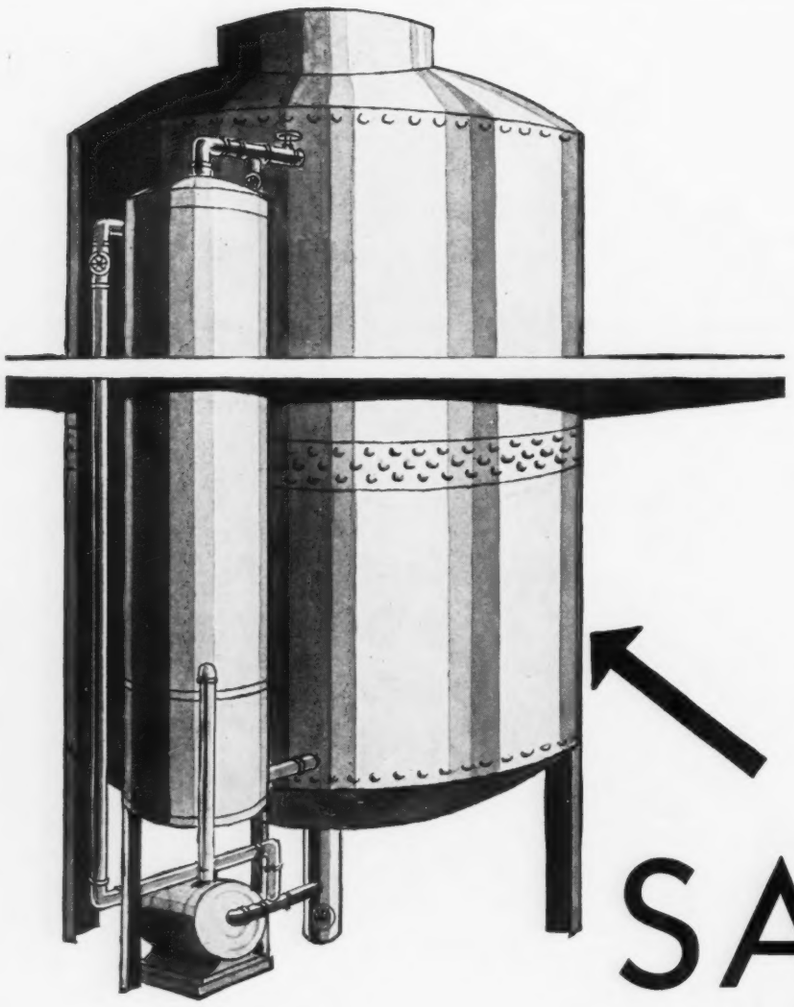
Manager,
Tifton Cotton Mills,
Tifton, Ga.

"FOR THE LAST YEAR or so I have been intending to let you know that I thoroughly enjoy reading COTTON, and find it very interesting from cover to cover, and I just wanted you to know that the information contained in this each month is very valuable to mill men. I especially enjoy reading OLD-TIMER, who always has very interesting as well as helpful articles."

M W Mayes



SAFETY WHEN YOU BLEACH WITH PEROXIDE

Makers of
ALBONE
(25 vol.)
ALBONE "C"
(100 vol. Electrolytic)
HYDROGEN PEROXIDE
PERBORATES
SOLOZONE
(130 vol.)

THERE is no sale for acid-damaged cloth.
Play safe! Bleach with Peroxide.
Only mildly alkalined solutions touch the fabric from start to finish of this process.
The R & H system of Peroxide bleaching equalizes the cost of old and new methods. Any kier can be adapted for its use at little expense. Write for the facts.

The ROESSLER & HASSLACHER CHEMICAL CO.
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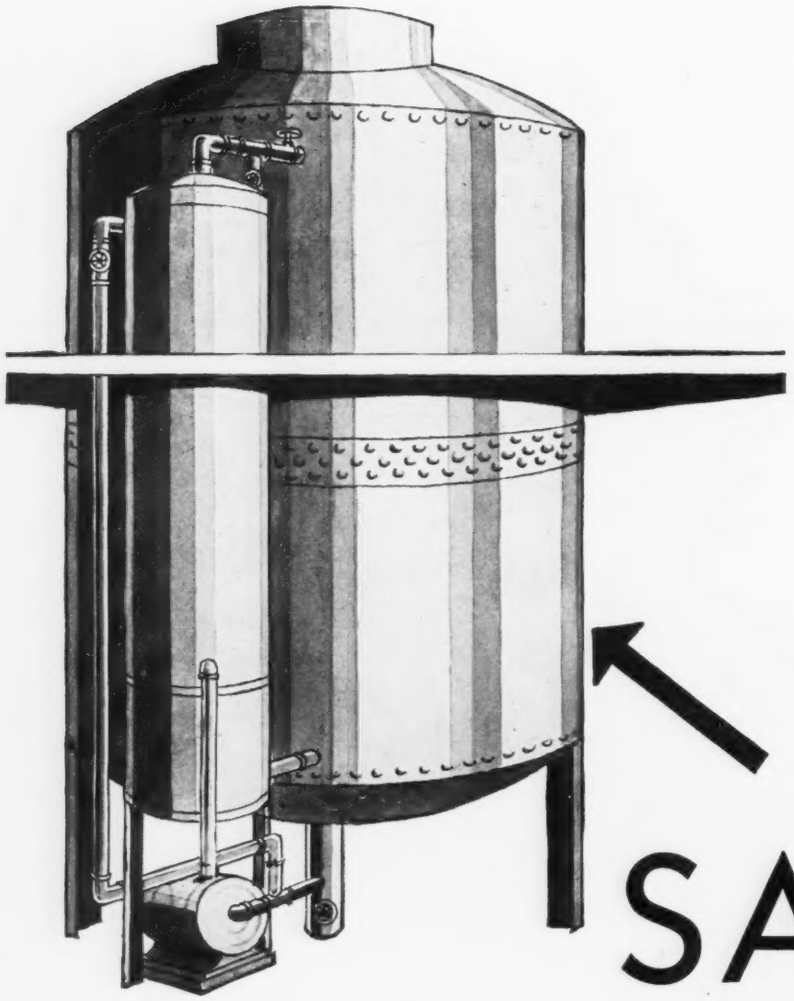
R&H CHEMICALS

Among Cotton's Readers

J. C. CUDD
Superintendent,
Wallace Manufacturing Co.,
Incorporated,
Jonesville, S. C.

"TO KEEP ABREAST of the progress that is being made in the textile industry, one must be alert, and I find that COTTON keeps one up to the times, if it is closely read and studied."

J. C. Cudd



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10 East 40th Street, New York, N. Y.

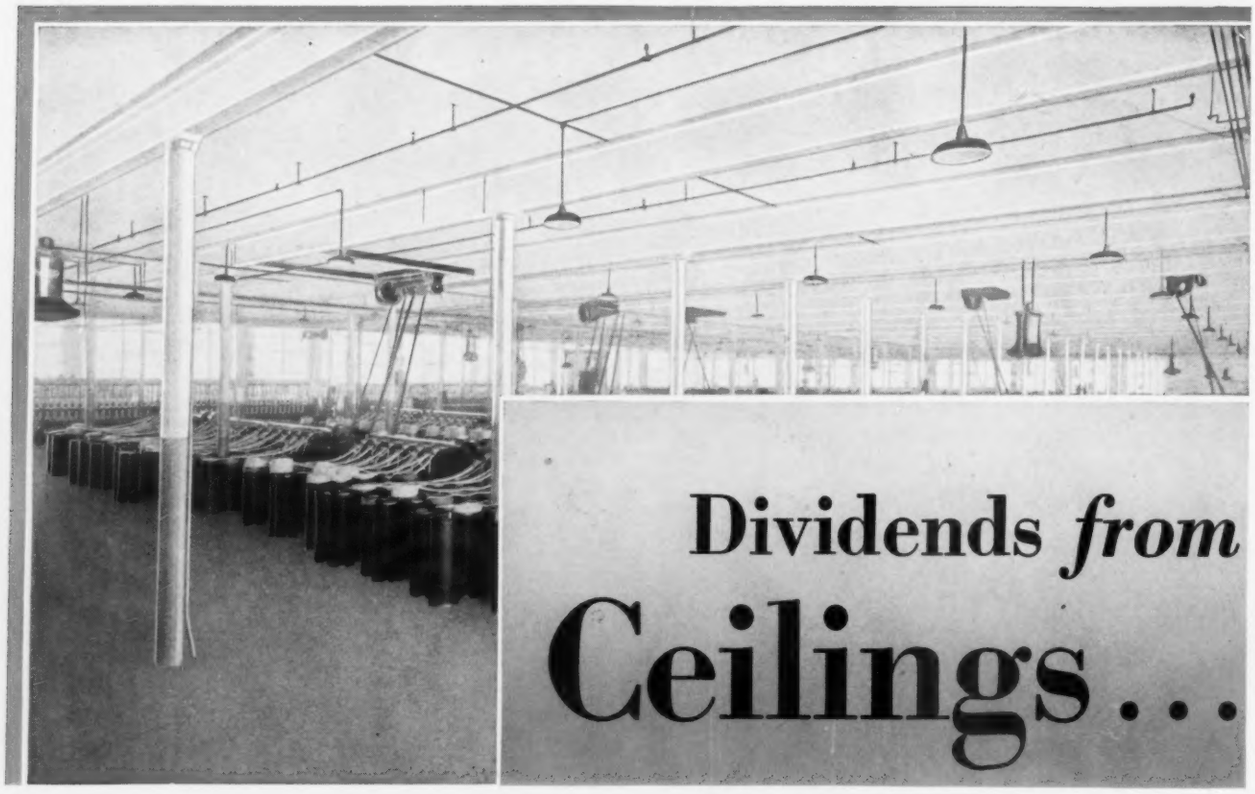
R&H CHEMICALS

Among Cotton's Readers

JOHN A. McFALLS,
Superintendent
Ranlo Manufacturing Company,
Gastonia, N. C.

"I HAVE BEEN a reader of COTTON for ten years or more, and in my opinion COTTON covers textile practices and technicalities in a more informative and general way than any publication with which I am acquainted."

John A. McFalls



Dividends *from* Ceilings . . .

Ceilings and walls finished with Sherwin-Williams SAVE-LITE! Every ray from windows and electric lights reflected back and forth from clean, white surfaces. Shadows illuminated —no fumbling workers' fingers, more production, fewer accidents, lower cost lighting.

S-W SAVE-LITE Gloss White is far more than just another white paint. Applied with brush or spray over any interior surface, it dries in twenty-four hours to a tile-like finish—easily washed in years to come with soap and water.

SAVE-LITE is the product of the world's largest manufacturers of protective coating. Their skill and experience perfected the formula. Unequaled manufacturing facilities make it the way the laboratory intended. And *volume* production and distribution bring it to your mill at the lowest possible price.

Light up for profits and insure your investment with S-W SAVE-LITE and the S-W White Undercoater to match.

Detailed descriptions of SAVE-LITE and other S-W finishes made especially for textile mills, furnished on request. Sherwin-Williams Co., Dept. 729, Cleveland, Ohio.

SHERWIN-WILLIAMS SAVE-LITE

Among Cotton's Readers

W. L. STEELE, JR.,
Superintendent,
Arista Mills Company,
Winston-Salem, N. C.

"THE READERS of COTTON grow more appreciative every day for the advantages they are given through this magazine. It is hard to beat for good sound facts."

W. L. Steele Jr.

Read what S-W Paint Standardization accomplishes for the Kendall Company

This valuable booklet tells you how world's largest manufacturers of protective coatings can effect startling economies in plant operation and maintenance for you.

THE Kendall Company, well known makers of "Curity" Surgical Dressings, cheesecloth, curtain goods, and sanitary goods, use the S-W Paint Standardization Plan in all of their plants. They have demonstrated that paint standardization for plants is a logical part of industrial efficiency. Methods of standardization that have benefited leaders in one field can generally be adopted and used to advantage by leaders in other industries.

And now, believing that plant engineers and other executives with plant problems might be interested, we have available for distribution, a booklet written by R. S. Howland, Purchasing Agent for the Kendall Company, on "Why we maintain our plants on the S-W Plant Standardization Plan."

You can read in this report how, under the S-W plan, each surface is finished to best meet its specific needs with a finish that provides the maximum in lasting protection. And also, how the ideal lighting and sanitary conditions that have resulted, have effected startling economies in increased production—reduced spoilage—saved money by checking property depreciation—and improved working conditions, health and morale.

Mail coupon for this booklet

Send the coupon today for this valuable booklet. Learn how S-W Save-Lite Industrial White Finishes and S-W engineers can help you light *your* plant properly and make the same important savings that the Kendall Company is now enjoying.

NOTE:—Our offices at Philadelphia, Charlotte, Atlanta, and 247 East Main Street, Spartanburg, S. C., are maintained for the convenience of mill owners and operators in these sections.

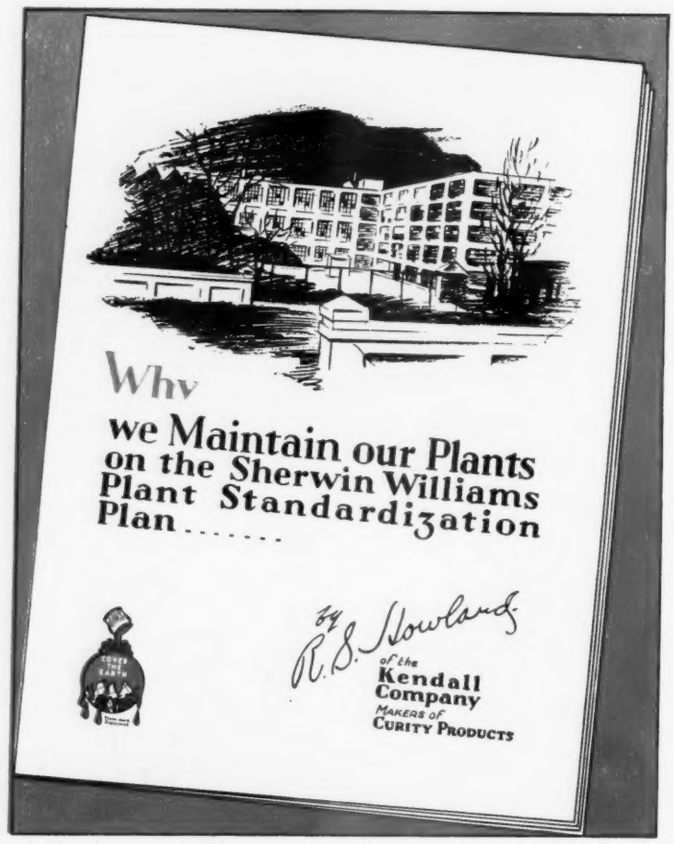
THE SHERWIN-WILLIAMS CO.
CLEVELAND, OHIO

THE SHERWIN-WILLIAMS CO., Cleveland, Ohio.
Gentlemen:—I am interested in plant operation and maintenance. Please send me a copy of your booklet on the S-W Plant Standardization Plan at the Kendall Company's Mills and Plants.

Name..... Business Title.....

Address.....

City..... State.....


Why
we Maintain our Plants on the Sherwin Williams Plant Standardization Plan.....
By R. S. Howland
of the Kendall Company
MAKERS OF CURITY PRODUCTS

SHERWIN-WILLIAMS
SAVE-LITE

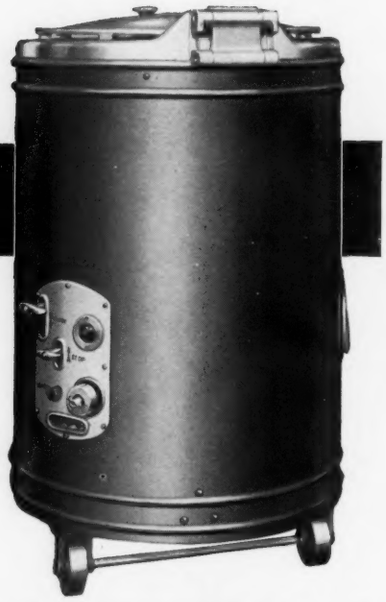
Among Cotton's Readers

FRANK K. PETREA,
Superintendent,
Swift Manufacturing Company,
Columbus, Ga.
General Chairman, Textile
Operating Executives of Georgia.

"I AM ALWAYS glad to receive my copy of COTTON each month, as I find articles therein of interest to me, and it is a real pleasure to be privileged to be a subscriber to a magazine which brings me the information that I always find in its pages. It always contains articles that have to do with problems that we run into every day, and by reading these articles we are better informed as to how we may meet them."

Frank K. Petrea

THE READING PORTABLE CENTRIFUGAL EXTRACTOR



The "Reading" is but 28 in. in diameter and is mounted on fixed wheels and a caster to permit easy handling from one department to another. The machine consists essentially of an 18 inch bronze Basket driven by an Underslung Motor, Centrifugal Clutch, and a Built-in Mechanical Brake for bringing the basket to rest quickly after current is cut off. All moving parts are enclosed in a Monel Metal Casing.

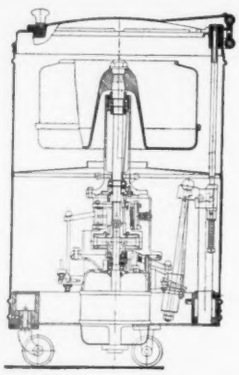
The method of mounting is unique and important, in that the entire working unit is carried on free-swinging suspension rods, the support brackets for which are attached to the vertical posts.

In response to a long-felt need in many industries for a small, high-speed portable dryer of the centrifugal type, Textile Machine Works has designed and developed a compact, efficient extractor with an almost unlimited range of uses.

The "Reading" is in no sense a washing machine type of dryer, but a safe, rugged extractor built for long and continued service in industrial establishments. While its capacity is small, the "Reading" can be loaded, operated and emptied with such rapidity that it is actually a *production* machine.

These advantages will undoubtedly prove of great value to textile finishers, dye works, laundries, chemists and the process industries. Special baskets for various requirements will be furnished on order. The wet load should not exceed 45 pounds.

The construction, operating principles and safety features of this extractor are explained in detail in a recently issued bulletin. At your request we will forward you a copy at once—the coupon is for your convenience.



By means of this special arrangement embodying a fixed basket and three-point free suspension, automatic self-centering of the driving apparatus is secured, thus reducing vibration to a negligible amount and preventing the machine from "creeping".

A compactly arranged panel located on the side of the casing contains the start and stop levers, current tell-tale, push contact for power cord, motor switch, and a central Alemite greasing station.

TEXTILE MACHINE WORKS
Reading, Pennsylvania

Textile Machine Works, Reading, Pa.
Dept. B

Please send Bulletin covering The Reading Centrifugal Extractor to

Name.....

Street..... *City*.....

Among Cotton's Readers

W. A. LONG,
General Superintendent,
Knoxville Knitting Mills Company,
Knoxville, Tenn.

"I ENJOY your great textile paper, COTTON, for I can always find valuable information in each issue. I think you will find that I have been a regular subscriber to your magazine as long as anyone else. As the textile industry has grown and developed, I have been interested in seeing your magazine expand to meet the increased need. We find your 'Knitting Kinks' discussions on knitting subjects to be especially helpful in the efficient operation of our plants."

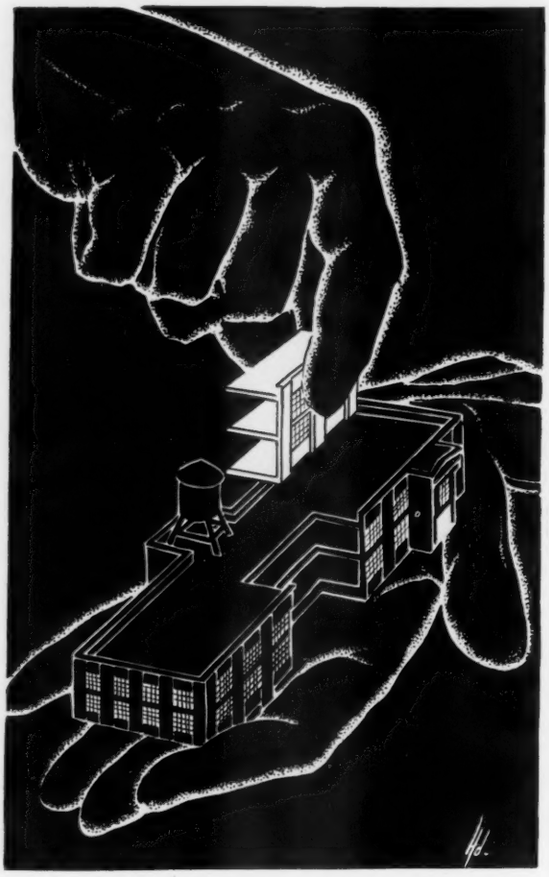
W. A. Long

Departmental MODERNIZATION *is the key to future* SALES

NOW is the time to modernize. It is a matter of *first* importance to the smaller mills . . . for the larger mills know modernization's vital importance.

Competition so demands modernization that mills that have not already done so are fast clearing up their departments.

Relocation of machinery, better grouping, improved movement of product through plant and installation of all those production efficiencies that speed smooth production and substantially cut operating costs are today's *safeguards* for the future.



Perhaps but a single department requires modernization but only industrial engineers can give *safe* advice regarding any department for they see each separate department in its relation to the whole plant . . . and they have nothing to sell to a mill except their broadly experienced service.

Prepare for the future *today* by retaining the all-comprehensive service of engineers whose chief activities are in the textile field.

Correspondence is invited with the understanding that preliminary consultation is entirely without obligation.

ROBERT AND COMPANY
ATLANTA INCORPORATED GEORGIA
Architects and Engineers

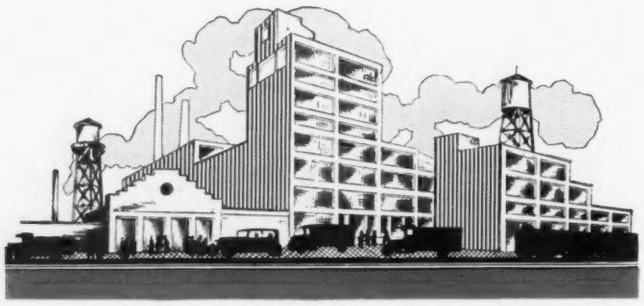
Among Cotton's Readers

GEORGE H. HUGHES,
Superintendent,
Borden Mills, Incorporated,
Kingsport, Tenn.

"WHEN my copy of COTTON arrives, I look upon it as the textile magazine which is so filled with constructive value that if denied, would be a great loss to me. My associates have repeatedly expressed themselves in this same manner. In our forum meetings, we often use it as our text book."

George H. Hughes.

Paint means more than surface protection



Textile Industry has saved thousands of dollars with S-W Paint Standardization Plan

This "Sermon On Paint" touches on a serious subject. One that vitally concerns *production schedules* and *personnel efficiency* as well as *plant upkeep.*

Today, paint must be considered as *more* than just something that protects surfaces! Paints must be selected in relation to *how they may increase the utility* of the surfaces they protect, as well as to how manufacturing processes and other conditions may *react* on them!

And right *there* is where the Sherwin-Williams Paint Standardization Plan enters the picture! It provides a *planned and controlled* system of selecting and applying industrial finishes that best meet the exact requirements of each surface. Back of it is the ripe experience of the world's largest manufacturers of protective coatings.

Proper paint on interior walls and ceilings *can increase working light 30% to 50%*! It increases production, reduces accidents and spoilage, and improves health and morale. Proper paint, of course, will also resist fumes, excessive moisture and keep premises sanitary.

The S-W Paint Standardization Plan has *saved* thousands of dollars for many of the leaders in the textile industry! Let a S-W Paint Engineer discuss your paint investment with you. Write for interesting booklet that completely describes this plan. The Sherwin-Williams Co., Dept. 729, Cleveland, Ohio.

NOTE: Our offices at Philadelphia, Charlotte, Atlanta, and 247 East Main Street, Spartanburg, S. C., are maintained for the convenience of mill owners and operators in these sections.

SHERWIN-WILLIAMS

MILL VILLAGE PAINTS

S-W Mill Village Paints are standardized finishes that meet every requirement of Mill Village property. They keep workers' homes attractive and sanitary—and workers and their families comfortable and contented. Their lasting qualities make them an effective and economical means of staving off depreciation.

Tune in Paul Whiteman and the Allied Quality Paint Men over N. B. C. network Tuesdays at 8 P. M. (E. S. T.)

SHERWIN-WILLIAMS

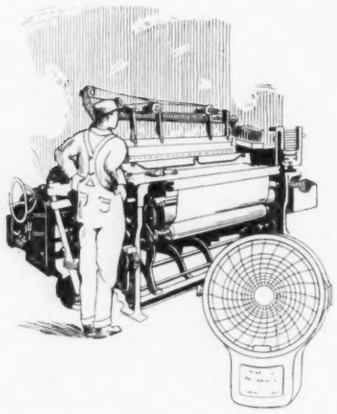
SAVE - LITE

Among Cotton's Readers

INGRAM LEE,
Superintendent,
Dallas Textile Mills Department,
Texas Textile Mills, Incorporated,
Dallas, Texas.

"I THINK COTTON fills a place in the field of trade journalism that is unique. We have good textile journals to bring us the news of the industry; and we have good financial papers. But for a thorough review of up-to-date manufacturing methods I prefer COTTON to any other. Whether a man be overseer, superintendent or executive, COTTON talks his language and discusses his problems.

Ingram Lee



Like a Recording Instrument

The Bedaux Principle Keeps Close Check on Energy

With the assistance of the regular analyses and records provided by the Bedaux method of wage payment and incentive, you can sit at your desk and get a clearer picture of conditions in one or more plants than would be possible if you spent your whole time on personal inspection tours. The Bedaux Principle tells you accurately what is taking place in each department.

Bedaux provides a yard stick of measurement for each job—a basis upon which to expect a fair day's work from each operative. The operative is given a definite incentive to produce more work, by:

An intelligent application of his efforts, a proper utilization of his time and energy, the right to expect a fair day's pay for his efforts, and the assurance that the basis of his compensation will remain unchanged.

Learn how to reduce costs by raising wages. Concrete facts will convince you. Ask for list of clients.

THE CHAS. E. BEDAUX COMPANY

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Superintendent,
Cedartown Cotton & Export Co.,
Cedartown, Georgia

"I ENJOY reading every month your great magazine, COTTON. I have been a regular subscriber since 1913 and do not think I have ever missed an issue. It is always a pleasure to recommend COTTON to my overseers, and others, for every month they will find valuable and useful information, regardless of the department with which they are connected."

Charles R. Brumby

BEDAUX

a highly sensitive check-up on human power

that means profits for both owners and employees

The Bedaux principle of measuring labor is so sensitive, so thorough, that it points squarely at the places where manpower is wasted or unutilized—turning it into production and profits for both owners and employees.

The Bedaux Principle of human power measurement has meant better business for the more than 250 industrial plants which it serves.

In twelve years Bedaux has saved $41,000,000 in manufacturing costs. It has increased wages $25,000,000. It has promoted more harmonious relations, founded on the fairness of Bedaux, both to management and labor.

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W. H. HARDEMAN,
Div. Mgr. and Superintendent,
Consolidated Textile Corp.,
LaFayette, Georgia.

"I ALWAYS look forward to COTTON, and read it regularly, because it always contains so many interesting discussions which enable a man to keep up with current textile practice throughout the industry. I especially like the fact that COTTON contains something of value to practically all mill men, regardless of their particular job."

W. H. Hardeman

THE BEDAUX PRINCIPLE DEALS WITH THE HUMAN ELEMENT ALONE

The IMPORTANCE OF LABOR CONTENTMENT..

Labor contentment does not "just happen". It is planned and built. It requires specialized skill and knowledge to make the adjustments—otherwise the management or the workers suffer.

The Bedaux Principle has grown steadily in favor for the last twelve years. Its results have been very profitable to both management and labor. A number of textile mills are among the more than 300 concerns that have found Bedaux advantageous in satisfying labor, yet reducing labor costs.

Average figures show that not only were labor earnings increased 15%, but production was increased 44%, and labor costs were reduced 20%, with the Bedaux Principle in 300 concerns.

Bedaux results are accomplished without expenditures for plant alterations or new equipment. You don't even have to sign a contract. The sum invested in the Bedaux Principle is very small in proportion to the returns.

Write for list of clients who will tell you how Bedaux has helped them.

"Bedaux Measures Labor" is the title of an interesting book which will be sent you on request.

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THE BEDAUX PRINCIPLE DEALS WITH THE HUMAN ELEMENT ALONE

Among Cotton's Readers

D. W. ANDERSON,
Manager,
Pacolet Manufacturing Company,
New Holland, Ga.
President Cotton Manufacturers' Association of Georgia.

"I CONSIDER COTTON one of the best among the number of magazines I take. I have been a subscriber for a number of years and would not think of being without it."

D W Anderson

THE BEDAUX PRINCIPLE DEALS WITH THE HUMAN ELEMENT ALONE

THE KEY GEAR TO

Increased production
Reduced labor costs
Increased labor earnings

THE Bedaux Principle is the key gear that turns profits your way—and gives the worker more wages. It is a principle of labor measurement and control that reduces manufacturing costs and encourages the worker to do his best. It measures accurately—utilizes energy that was formerly wasted.

A nationally known authority on industrial management made this statement in a recent address:

"No matter how good or how bad business is at any given time some institutions will fail, others will manage to hold their own, while still others will forge ahead and prosper. The difference between the success of one organization and the failure of another—both engaged in the same business at the same time—is, all factors considered, the difference in the quality of their management."

No doubt you are abiding by most of the laws that make better business, but what about labor direction in your plant? Bedaux specializes in this line only—and has a meritorious record of achievement that commands your attention. Bedaux has saved $41,000,000 for its clients, has added $25,000,000 to the payrolls of 250 concerns.

An attractive and interesting book entitled "Bedaux Measures Labor" will be sent you on request.

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OF NEW YORK, INC.

DOUGLAS S. KEOGH, President
22 East 40th Street
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THE BEDAUX PRINCIPLE DEALS WITH THE HUMAN ELEMENT ALONE

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Vice-President & General Manager,
Martha Mills,
Thomaston, Ga.

"IN ITS field of endeavor COTTON has no peer. It offers an unlimited supply of worth while ideas that can be profitably applied in any textile plant."

Albert T. Matthews.

BY SURVEY AND ANALYSIS OF AVERAGE INVESTMENT RETURN OF SOUTHERN MILLS

Veeder-Root PICK COUNTERS

are returning to mill owners

4% increase in production

with a consequent

3.85% reduction in indirect labor

and fixed operating costs

0293
DAY
ADD
0327
NIGHT
Running 75 % production your Counter should register at stopping time each day:
MON. TUE. WED. THU. FRI. SAT.
DAY 74 149 223 297 371 405
NIGHT 81 162 243 342 405

6% production-increase with this TANNER TYPE RE-SETTING PICK COUNTER

➤ ➤ ➤

Ask to be shown

the facts and figures of this survey

W. A. Kennedy, Johnston Bldg., Charlotte, N. C.
Representative in Virginia, North, South Carolina

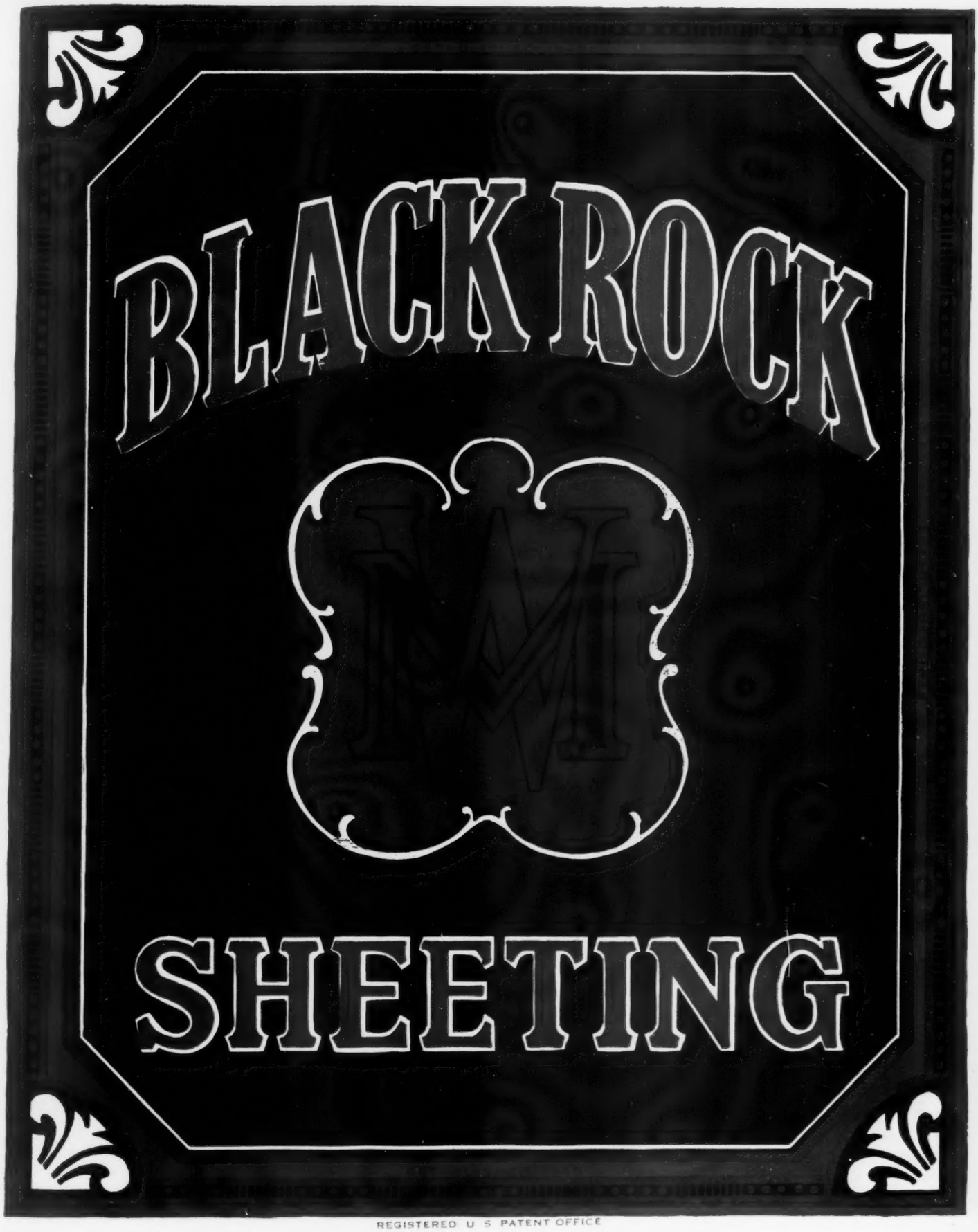
Veeder-Root INCORPORATED HARTFORD, CONN.

Carolina Specialty Company, *Representative in Georgia, Tennessee, Alabama, Mississippi*

COUPON:

Pin this to your business letterhead and mail to VEEDER-ROOT, Incorporated, Hartford, Conn.

SEND US THE DATA from your survey and analysis of the average investment return of southern mills, proving a 4% increased production resulting from use of your Loom Pick Counters.



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Reproduced with the permission of W. S. Montgomery, Treasurer, Spartan Mills, Spartanburg, S. C.

This striking label is used by Spartan Mills as a mark of distinction for their unbleached sheeting of exceptional quality, which has been popular for over 80 years. For the production of a label of quality, worthy of a super product, Spartan has turned to the home of better labels, the press of Jacobs & Co., Clinton, S. C. We present this accomplishment with pride, as a worthy sample of our craftsmanship. Our story is told more completely on the back of this page. J. & Co.

Your Label—

Does It Properly Express the Spirit of Your Product?

THE BLACK-ROCK label reproduced on the reverse side of this page, strikingly portrays the quality that has characterized the Spartan product through the greater portion of a century. It tells of beauty, dignity, stability, durability and a lifelong service.

It is, however, only one of hundreds of labels from our presses, gracing leading textile products of the South.

Our craftsmanship is directed toward the production of a better label, a product of beauty, dignity, appropriateness and lastability.

Price—of course it must be considered—but by our standards it is second to quality.

We believe that an inferior label does more harm than good. A product that is worthy of a label is worthy of a good one. If its quality does not justify a good label, it is better that it be left nameless.

May we help dignify and beautify the name of your product? The product of our Graphic Arts may be worth the price to you many times over.

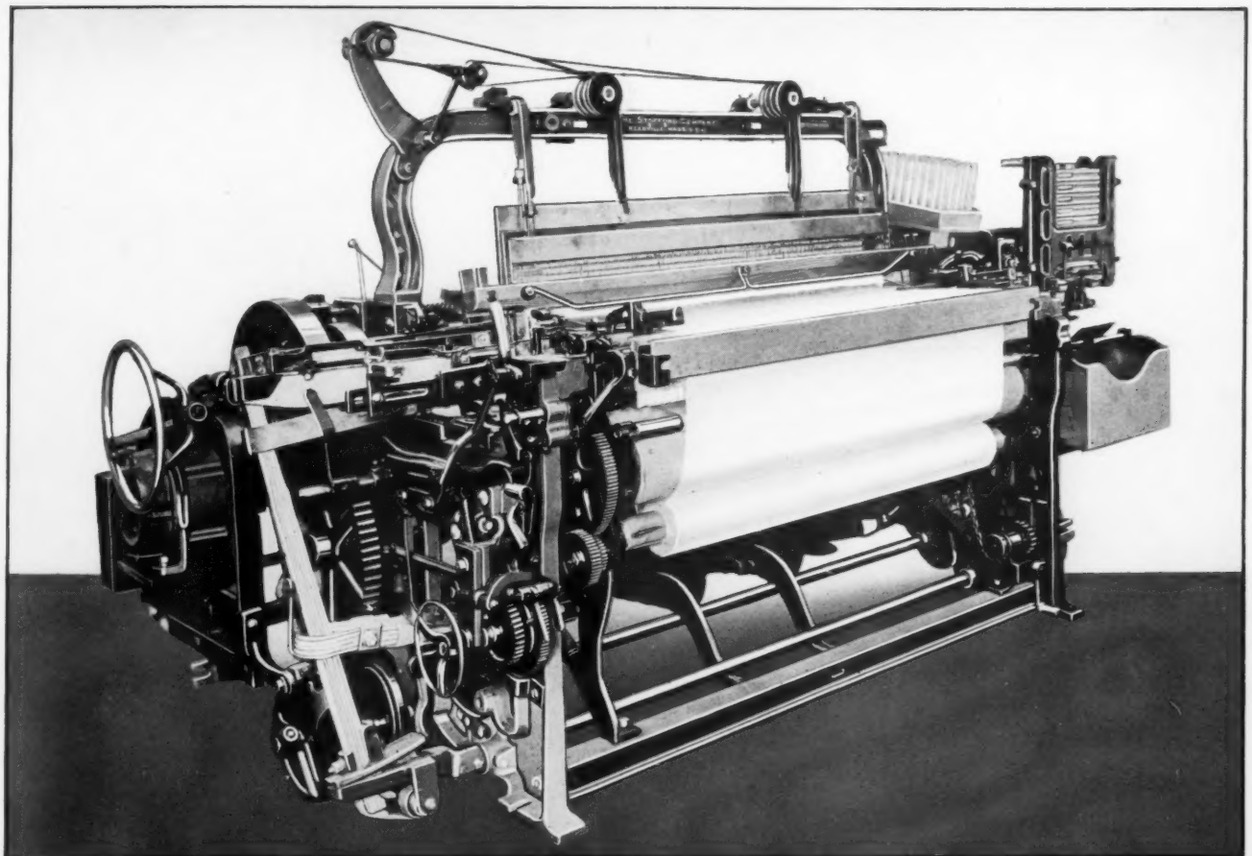
Our Representative Will Gladly Call

Jacobs & Company

Beautifiers of Better Products

Commercial Art, Photo-Engraving, Electrotyping, Printing

Home Office and Plant CLINTON, S. C.



LOOM VALUE

THE first and second of the great factors that determine loom value, i.e., its *design* and the *quality* of *materials* and *workmanship*, are easily apparent in the Stafford Shuttle-Changing loom. ¶ There is no question but that the Stafford delayed-action principle of shuttle changing is far and away the best for fine cotton goods and rayons. There can be no loose picks or looped picks. As for productions and costs, we have published figures from mill after mill where Stafford looms are bettering every known standard of the past. ¶ As for quality of materials and workmanship, the following tale of what an owner of Stafford looms accomplished with new looms is as unusual as the looms themselves: ¶ In one of the best of fine goods mills several hundred brand-new Stafford Shuttle Changing looms had been installed. They had been rocked for but one day when the Superintendent found that some new warps were beginning to come through for a rush job. There were 2 sets of them to make approximately 900 pieces of high sley fabric of very difficult weave. Faced with the necessity of taking warps out of old looms to get the job out, against his better judgment and experience he tried one warp in one of the new looms. To his surprise it started up and "walked away" with the job without the slightest trouble. Whereupon he put the whole job on the new looms and got the order through as easily as if the looms had been thoroughly broken in. When you consider that the quality standards of this mill are of the highest known, the performance is most illuminating. ¶ As for the third factor, the maker's interest in his looms after they are sold, consider the new items reported on the other side of this page. Read about some of the cost-saving and profit-making practices of Stafford loom owners, instituted at the suggestion of, and with the help of, Stafford service men.

Loom Value is Determined

FIRST, by design.

SECOND, by quality of materials and workmanship.

THIRD, by the maker's interest in his product after it is sold.

TURN . . . THE PAGE . . . for the Latest News on STAFFORD Looms

Amazing Versatility of STAFFORD Shuttle Changers Permits Manufacturers to "Follow the Styles at a Profit" . . . .

4% Seconds on Difficult Rayons Obtained Soon After Starting Up New STAFFORD Shuttle Changers.

A LARGE Northern mill operating many Stafford Shuttle-Changing Looms reports that it has reduced its seconds to a consistent 4% on the most exacting Celanese fabrics. It operates with 14 looms per weaver and is happy to have licked the quality problem so handily. Stafford service men have worked with the mill in achieving this end and have made many helpful suggestions about some of the finer points of handling these looms.

□ □ □ □ □

STAFFORD Shuttle Changers Handle Filling Packages of All Types, Sizes and Weights

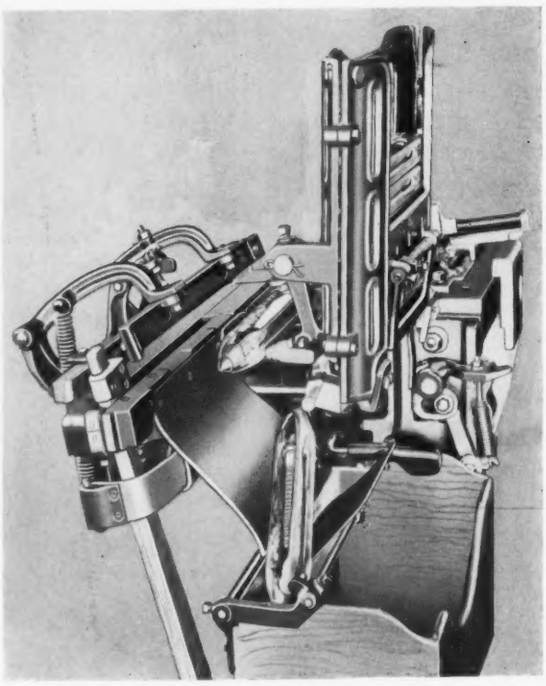
Here are illustrated some of the filling packages that the Stafford Shuttle Changer can handle with no trouble at all. You can

use any type of bobbin or cop that the shuttle will take. If you want quality you can get it. If you see a way to save money, you can save it. You can "follow the styles" on an economical basis

□ □ □

Mill Weaves Fabrics on STAFFORD Shuttle Changers from 10 to 1.85 Yards per Lb.

A Southern mill equipped with Stafford Shuttle Changers is making government goods which run 1.85 yards to the lb. Our looms are handling it very successfully. Other Stafford looms in this mill are weaving fabrics which run up to 10 yards per lb. We were happy to show this installation to a mill executive who had an idea that Stafford looms were suited for "very, very fine fabrics." To you we point out the profit possibilities of a loom that has the amazing versatility of the Stafford Shuttle Changer. You can keep these looms busy for they can handle any order you take, within their range.



Rayon Manufacturer Puts Idle Looms to Work on Silk

UPON learning from a mill superintendent that he was experimenting on weaving silk on some old Stafford Shuttle-Changing Looms, a Stafford representative was glad to inform him that all Stafford Shuttle Changers are so built that the single box automatic motion can be replaced with a 2 x 1 lay and box motion for weaving crepes.

Did you know that this could be done? It can be done easily, for the frame is already fitted to take this motion. Again we point out the possibilities for profit in a Stafford designed loom. It's versatile,—the product of master loom builders.

Stafford engineers are always available for our customers' service.
It's a worth-while service behind a worth-while loom.

THE STAFFORD COMPANY

MANUFACTURERS OF

Weaving Machinery

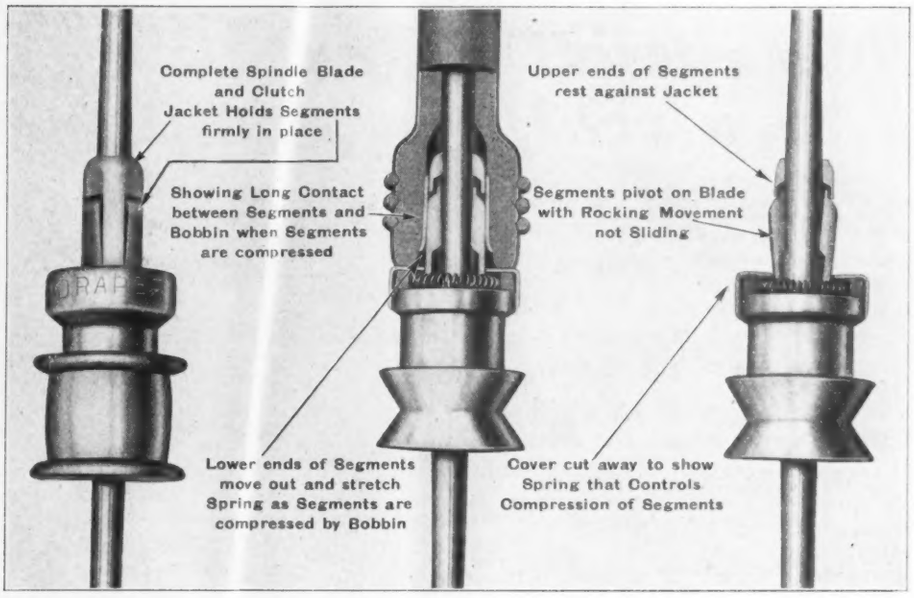
READVILLE, MASSACHUSETTS

Paterson Office: 179 Ellison St., Paterson, N. J. Southern Agent: Fred H. White, Charlotte, N. C.

PRINTED IN U. S. A.

The Stimpson Centrifugal Clutch Spindle

Will Wear as Long as any Solid Whorl Spindle


Complete Spindle Blade and Clutch Jacket Holds Segments firmly in place
Showing Long Contact between Segments and Bobbin when Segments are compressed
Lower ends of Segments move out and stretch Spring as Segments are compressed by Bobbin
Upper ends of Segments rest against Jacket
Segments pivot on Blade with Rocking Movement not Sliding
Cover cut away to show Spring that Controls Compression of Segments

DRAPER CORPORATION

Hopedale Massachusetts

Southern Offices Atlanta Ga and Spartanburg S C

Copyright 1917 by Draper Corporation

The SELF-CLEANING TEXTILE MOTOR

. . . "frees itself of lint in a really splendid fashion"

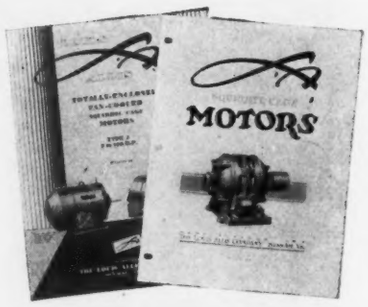
These are the words of the Chief Engineer of a large cotton mill in Georgia, where 197 Louis Allis Self-Cleaning Textile Motors are operating pickers and spinning frames.

The "self-cleaning" ability of L.A. Textile Motors results from wide-open air passages, and "Resistallis"- coated windings, which prevent the accumulation of lint.

"Resistallis" is a special insulation developed by The Louis Allis Co. Applied to the windings of L.A. Textile Motors, "Resistallis" forms a hard, smooth, glossy surface to which lint or dust will not cling. And this protection is *permanent*, because "Resistallis" does not run, drip, or crack with heat.

Be on the safe side! Wherever motors are subjected to lint or dust, guard against unnecessary maintenance expense and service interruptions. . . . .

Standardize on Louis Allis Self-Cleaning Textile Motors!



Write Today for these Bulletins

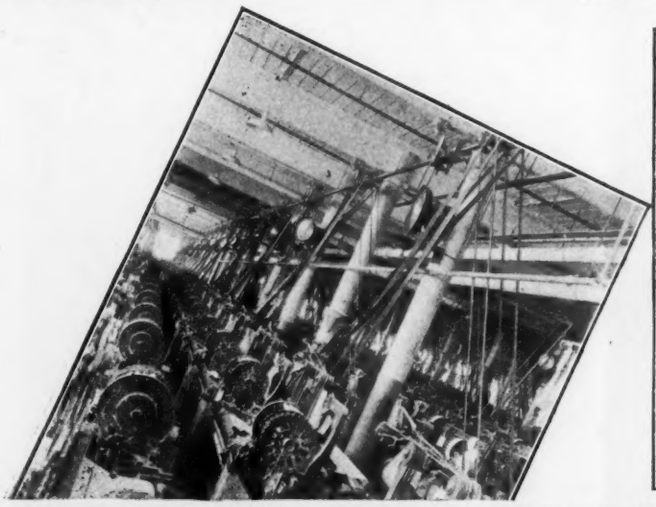
Louis Allis "Custom-Built" motors include types specially developed for safe operation under practically all ordinary and unusual industrial conditions. These two bulletins illustrate various types of Louis Allis Open and Enclosed Squirrel Cage Motors. Write for your copies *today*. Ask for bulletins 505-A and 510.

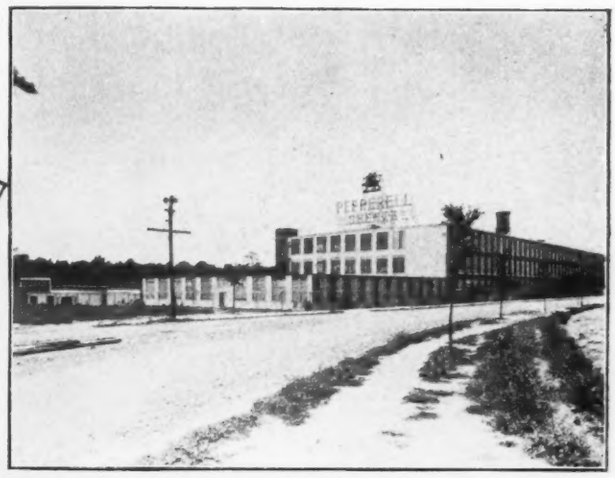
LOUIS L.A. ALLIS

"CUSTOM-BUILT" *Electric* MOTORS

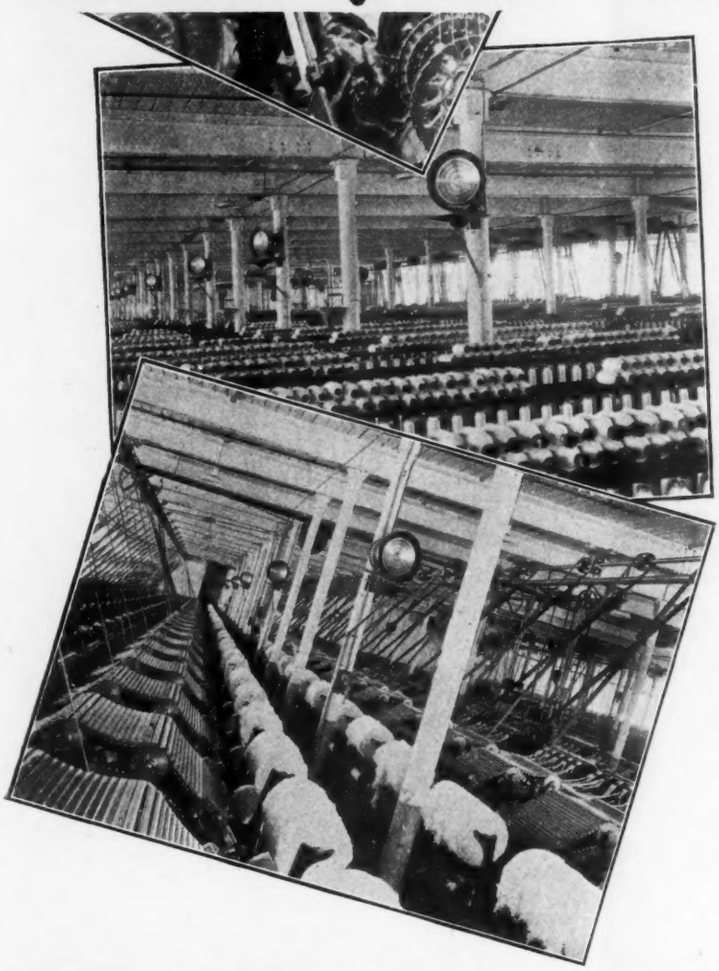
THE LOUIS ALLIS COMPANY
MILWAUKEE, WIS.
Motor Specialists for 29 Years / *Offices in Principal Cities*

Southeastern Representatives: Jones Machinery Co., Inc., Atlanta, Ga.





PEPPERELL QUALITY IS ENHANCED BY BAHNSON HUMIDIFIERS



The Pepperell Manufacturing Company are famous for the quality of their products.

To maintain high and uniform quality, the Pepperell Company knew that equipment must be of maximum efficiency—and this principle is strikingly exemplified in their selection of Bahnson Humidifiers for their plant at Opelika, Ala.

In the card room, spinning room, weave room, and other departments, Bahnson Humidifiers are keeping humidity conditions uniform for the manufacture of their quality products.

The Bahnson Humidifier will maintain a uniform humidity in your mill regardless of weather conditions.

Write for details or have a Bahnson Engineer call.

THE BAHNSON COMPANY

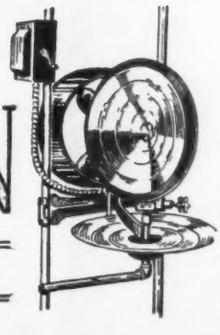
HUMIDIFICATION ENGINEERS

WINSTON-SALEM N. C.
NEW YORK OFFICE 93 WORTH ST.

The Key to

The BAHNSON

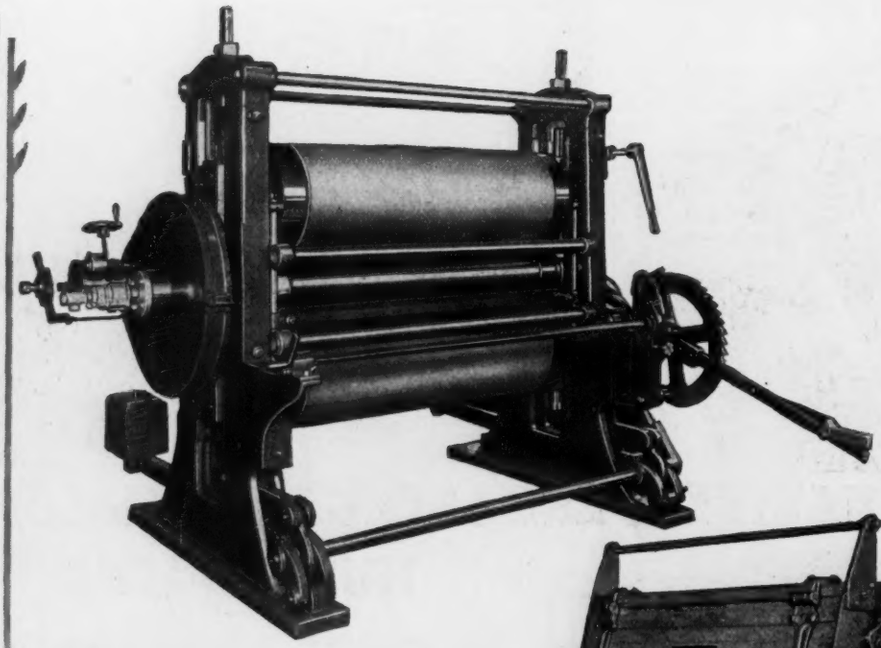
HEALTH — QUALITY



Production

Humidifier

— AND EFFICIENCY



Entering Side 3-ROLL CALENDER showing pressure lever applied.

Two Machines of Interest to Everyone Who Dyes or Finishes Rayon . . .

BUTTERWORTH IMPROVED 3-ROLL SILK CALENDER, which has 13 distinct features. For instance, all castings are made of Meehanite Metal noted for its long-wearing qualities and high tensile strength — all gears are cut — Alemite lubrication is used throughout — wool felt paper rolls are of a grade of paper made especially for the purpose — through the efficient operation of the hand pressure lever, pressures of 20 tons are easily attained.

The entire story of this new calender, which is especially adapted to Rayon, is told in a bulletin which will be sent promptly.

BUTTERWORTH SAMPLE 2-STICK SKEIN DYEING MACHINE, rotary principle. This machine duplicates the work of large production machines. It is valuable for dyeing sample lots of skein yarns.

TWO-STICK MACHINE
Front and drive side view.

Bulletin showing machine closed and open, together with a complete description of this new machine, is available, also bulletins on large type skein machines, as well as many other Butterworth Machines for Rayon including the All-Metal Dye Beck.

H. W. BUTTERWORTH & SONS COMPANY, *Established 1820*
PHILADELPHIA, PA.

PLANTS *at* PHILADELPHIA *and* BETHAYRES, PA.

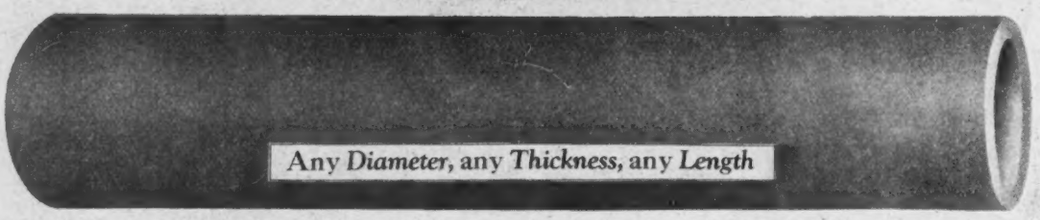
New England Office:	*Southern Office:*	*In Canada:*
TURKS HEAD BUILDING	JOHNSTON BUILDING	W. J. WESTAWAY CO.
Providence, R. I.	Charlotte, N. C.	Hamilton, Ontario

BUTTERWORTH *Finishing* MACHINERY

A COMPLETE LINE OF FINISHING MACHINERY FOR THE TEXTILE INDUSTRY

Crys-steel
RINGS
COTTON
WOOL
WORSTED
SILK
RAYON
JUTE
FLAX
ASBESTOS
MADE BY
WHITIN MACHINE WORKS
WHITINSVILLE · MASS · U·S·A·

"SONOCO"



SONOCO Cones, Tubes and other Products for Winding all Kinds of Yarns and Cloths, are designed and manufactured particularly for each specific use, by special methods and machinery evolved by us to meet the exacting requirements of modern conditions. Tell us your needs

IN close touch, always, with the problems of textile operations, we have made exhaustive study to obtain surfaces that are most suitable for the various winding operations. Our progress and achievements have won the commendation of many successful mills and knitting works. Send for samples

Mexican Representative
Compania de Industria y Comercio, S.A.
Ave. Isabel La Catolica, 59
Mexico D. F., Mexico

Canadian Representative
W. J. Westaway Co., Ltd.
Hamilton, Ont.

English Representative
Textile Paper Tube Co., Ltd.
Romiley, Nr. Stockport, Eng.

SONOCO PRODUCTS COMPANY
HARTSVILLE, S. C.

MANUFACTURER

CONES, TUBES, CLOTH-WINDING CORES AND SPOOLS,
Velvet Surface Cones, Underclearer Rolls, Dytex Tubes, Etc.

Mills: Hartsville, S. C., Rockingham, N. C. and 709 W. Front St., Plainfield, N. J.
New England Office: 512 Book Store Bldg., New Bedford, Mass.

Spanish Representatives:
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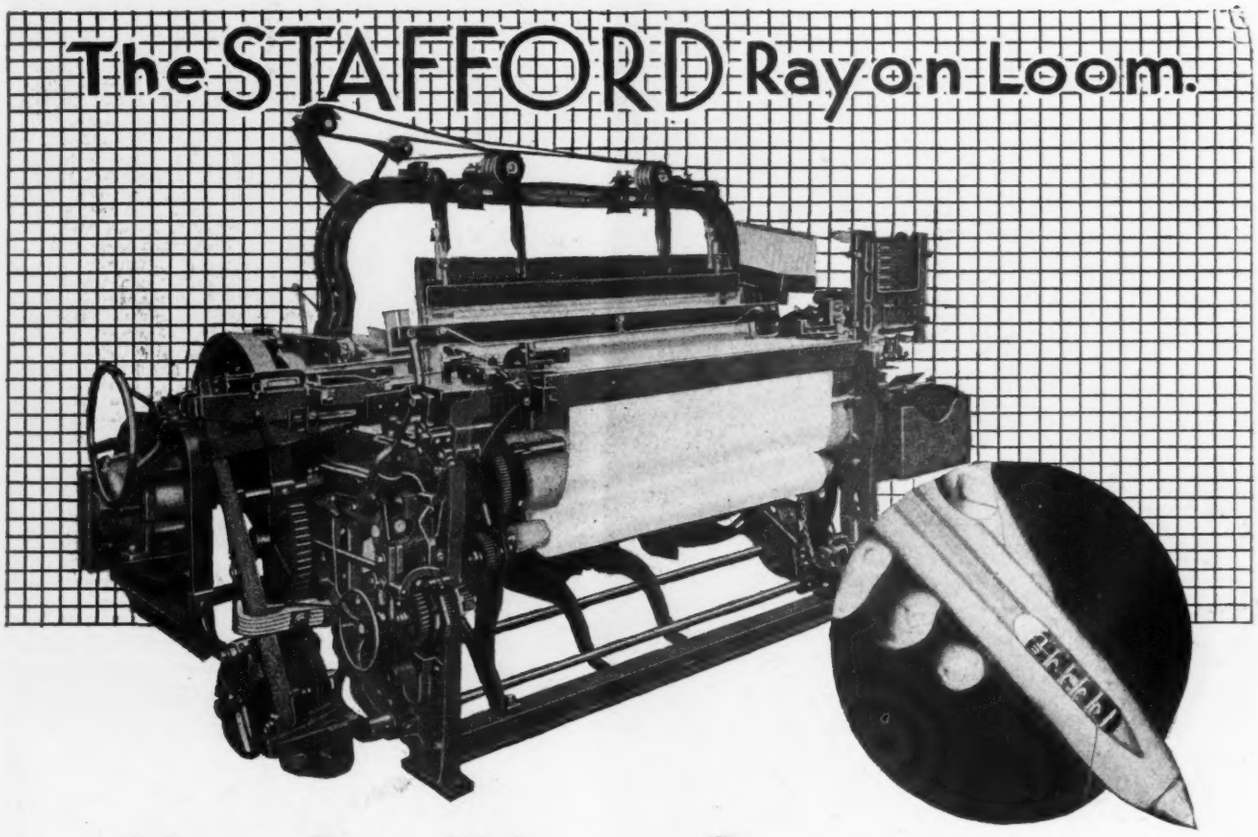
Fernandina #22
Barcelona, Spain

China Representatives:
Elbrook, Inc.
79 Worth Street, N. Y.

Australian Representatives:
Frank Lee & Co. Pty., Ltd.
Melbourne, and Sydney



You Can Weave Rayon AUTOMATICALLY (WITH PATERSON EYE SHUTTLES)

in STAFFORD Shuttle-Changing Rayon Looms

THE automatic shuttle-changing principle, exclusive with Stafford looms, is proving itself on RAYON. You get visual proof of the quality which we have claimed for years. You get added proof when you check up your production and profits.

The Stafford loom automatically changes the shuttle with a nicety and regularity that human labor can never approach. *It handles any type of shuttle.* You can use shuttles with the Paterson tension,—this is not possible with any other loom under automatic operation. There are no restrictions as to size, weight, type of shuttle or filling package consistent with good weaving practice.

Are you interested? Would you like some facts and figures including the names of some leading manufacturers who are using them?

THE STAFFORD COMPANY

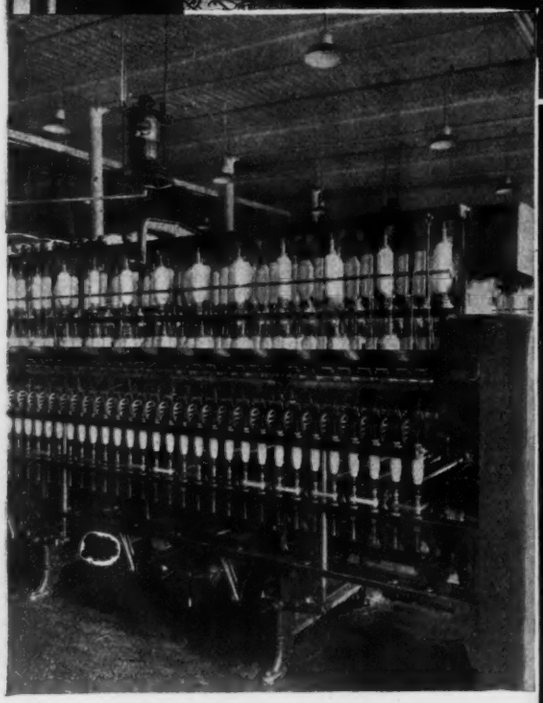
MANUFACTURERS OF

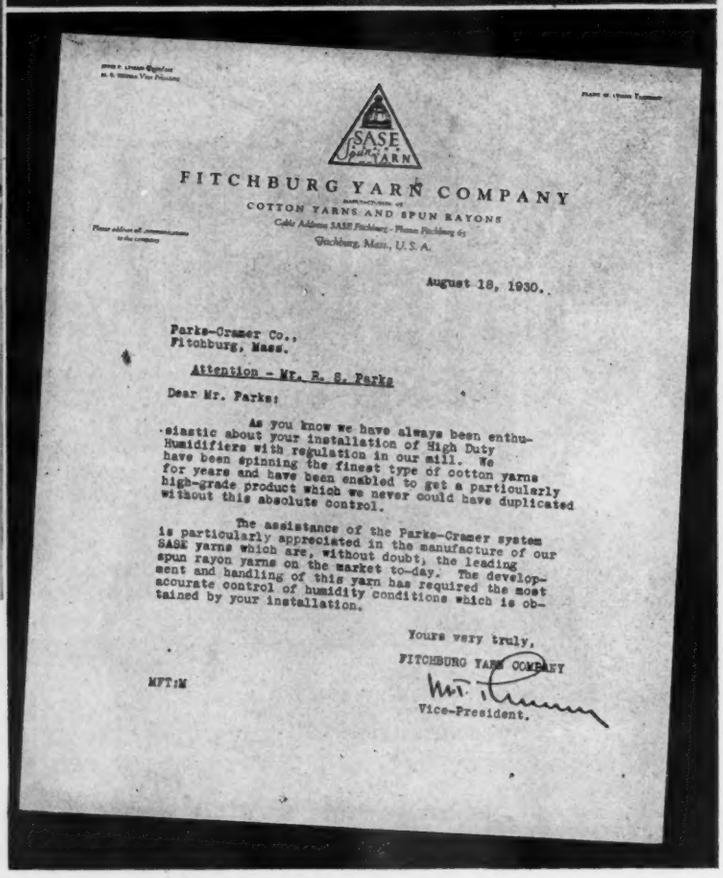
Weaving Machinery

READVILLE, MASSACHUSETTS

Paterson Office: 179 Ellison St., Paterson, N. J. Southern Agent: Fred H. White, Charlotte, N. C.

ParkSpray PROVES ITS VALUE





FITCHBURG YARN COMPANY

COTTON YARNS AND SPUN RAYONS

Fitchburg, Mass., U.S.A.

August 18, 1930.

Parks-Cramer Co.,
Fitchburg, Mass.

Attention - Mr. F. S. Parks

Dear Mr. Parks:

As you know we have always been enthusiastic about your installation of High Duty Humidifiers with regulation in our mill. We have been spinning the finest type of cotton yarns for years and have been enabled to get a particularly high-grade product which we never could have duplicated without this absolute control.

The assistance of the Parks-Cramer system is particularly appreciated in the manufacture of our SASE yarns which are, without doubt, the leading spun rayon yarns on the market to-day. The development and handling of this yarn has required the most accurate control of humidity conditions which is obtained by your installation.

Yours very truly,

FITCHBURG YARN COMPANY

MFT:M

Vice-President.

This ParkSpray High Duty Humidifying System installed in 1920 is still going strong and pleasing an old customer.

Parks-Cramer Company

FITCHBURG, MASS. CHARLOTTE, N. C.

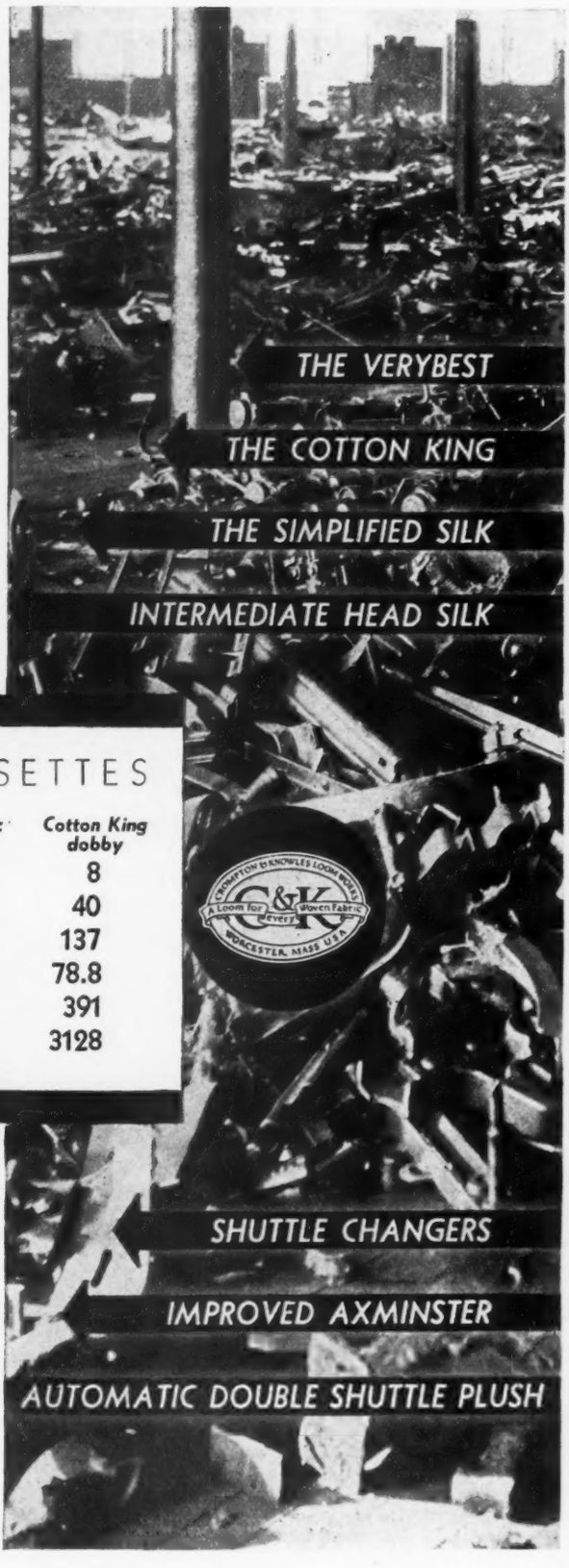
CANADA: Parks-Cramer Westaway Co., Ltd., Main and McNab, Hamilton, Ont.; 455 Craig West, Montreal, P. Q. CHINA: Elbrook, Inc., Shanghai; Pekin; Tientsen. GREAT BRITAIN, IRELAND: Cook & Co., Manchester, Ltd., 18, Exchange Street, Manchester, England. CONTINENTAL EUROPE: Compagnie Ingersoll-Rand, Paris, France. INDIA: Ingersoll-Rand (of India) Ltd., Bombay, Calcutta. MEXICO: Sr. Don Fernando Caraves, Apartado 1100, Mexico City.

ADEQUATE HUMIDITY — ACCURATELY CONTROLLED

OLD LOOMS MAKE WAY FOR THE NEW

Progressive mills have found that slow, out-of-date equipment cannot cope with new, automatic, high-speed looms.

The following figures of comparative performances, taken from an actual test in weaving marquisettes in a mill operating old and new looms, tell their own story.



MILL TEST ON MARQUISETTES

	Non-automatic dobby	*Cotton King dobby*
Looms per weaver	4	8
Looms per fixer	40	40
Speed	133	137
Per cent production	75.1	78.8
Yards per loom per 50 hour week	362	391
Yards per weaver's set per 50 hour week	1448	3128

8% more cloth per loom
116% more cloth per weaver's set
34% saving in weaving cost including labor and overhead
29% return on investment

Whether you weave silks, rayons, cottons, woolens or carpets, C & K have similarly interesting figures for you.

A Loom is Obsolete when "An improved model will do the work better, faster, and at less cost."

CROMPTON & KNOWLES LOOM WORKS

LOOMS FOR COTTONS, SILKS, RAYONS, WOOLENS, CARPETS AND RUGS, BLANKETS, JACQUARD FABRICS, ASBESTOS, LINENS

Allentown, Paterson, Philadelphia WORCESTER-PROVIDENCE S. B. Alexander, So. Mgr., Charlotte

"WE SEE BY THE PAPERS . ."

IT is the function of the press to print the news. The columns of the press reflect public interest quite as much as they contribute to public opinion. That is one reason why magazines and newspapers—from New York to California and from Florida to Maine—have "covered" cotton as the big fashion news of the year—for instance:

"Cotton is more prominent in the making of women's garments than it has been for many years."— NEW YORK TIMES

"Back from Elba comes Old King Cotton."— NEW YORK EVENING POST

"The Lure of Cotton is manifest in Resort Wear."— NEW YORK EVENING WORLD

"Cottons now have a position of prestige."— DAILY NEWS RECORD

"It would seem Cottons will be strongly favored in beach clothes."— TEXTILE WORLD

"Fashion Favoring Cottons for Town."— JOURNAL OF COMMERCE

"In February, 1929, the Institute launched its campaign in favor of the style trend toward cottons. An amazing lot has been accomplished with it."—BIRMINGHAM (ALA.) AGE-HERALD

"The Formal and Informal of Cottons"—title of a double page spread in HARPER'S BAZAAR.

"Cottons—the latest proteges of the Paris Couture"—title of a double page spread in VOGUE.

—And hundreds more that space will not permit printing.

BUT, the fashion news of cotton runs deeper than headlines. It rests on the FACTS—that remarkable achievements have been made in styling and design; that cottons possess in high degree every one of the qualities to make them fashionable—wearable—desirable. And so the facts were assembled, studied and presented carefully, consistently, systematically, frankly—and we believe successfully—in a well balanced educational program of advertising, style exhibits, fashion bulletins, radio talks and motion pictures, sponsored by a group of leading interests in the cotton industry through The Cotton-Textile Institute.

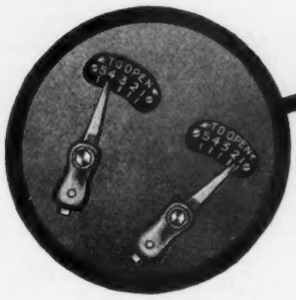
THE COTTON-TEXTILE INSTITUTE, INC.

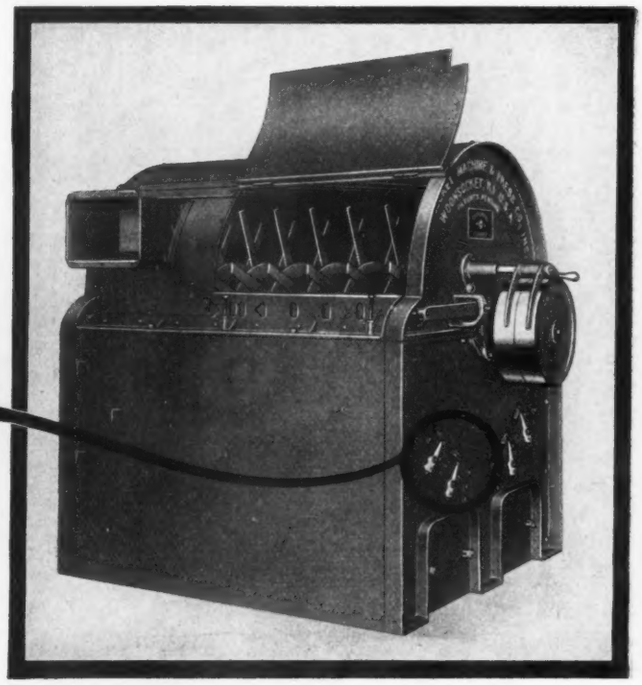
320 Broadway, New York City

These are the far-sighted firms whose money made this campaign possible

Aberfoyle Mfg. Co., *Chester, Pa.*
Acme Finishing Co., *Pawtucket, R. I.*
Alabama Mills Co., *Birmingham, Ala., Aliceville, Clanton, Dadeville, Fayette, Greenville, Haleyville, Jasper, Russellville, Wetumpka, Winfield.*
Aldrich Bros., *Moosup, Conn.*
American Printing Co., *Fall River, Mass.*
Anderson, Clayton Company, *Houston, Texas*
Aragon-Baldwin Cotton Mills, *Chester, S. C., Rock Hill, S. C., Whitmire, S. C.*
Arcade Cotton Mills, *Rock Hill, S. C.*
Arcadia Mills, *Spartanburg, S. C.*
Aspinook Company, *Jewett City, Conn.*
Avondale Mills, *Birmingham, Ala., Alexander City, Ala., Pell City, Ala., Stevenson, Ala., Sycamore, Ala., Sylacauga, Ala.*
Joshua L. Baily & Co., *New York City*
Baltic Mills, *Baltic, Conn.*
Jos. Bancroft & Sons, *Wilmington, Del., Reading, Pa.*
Bellman Brook Bleachery, *Fairview, N. J.*
Berkshire Fine Spinning Associates, Inc., *Adams, Mass., Fall River, Mass., North Adams, Mass., Williamstown, Mass., Albion, R. I., Providence, R. I., Warren, R. I., North Pownal, Vt., Brattleboro, Vt.*
Bliss, Fabyan & Co., *New York City*
Boott Mills, *Lowell, Mass.*
Borden Mills, *Kingsport, Tenn.*
Bradford Dyeing Association, *Bradford, R. I.*
Brandon Corp., *Greenville, S. C., Woodruff, S. C., Traveller's Rest, S. C.*
Bristol Mfg. Corp., *New Bedford, Mass.*
Brookside Mills, *Knoxville, Tenn.*
Butler Mill, *New Bedford, Mass.*
Cabot Mfg. Co., *Brunswick, Maine*
Calhoun Mills, *Calhoun Falls, S. C.*
Callaway Mills, *LaGrange, Ga.*
Catlin-Farish Company, *New York City*
Chadwick-Hoskins Company, *Charlotte, N. C., Pineville, N. C.*
Chesnee Mills, *Chesnee, S. C.*
Chiquola Mfg. Co., *Honea Path, S. C.*
Clifton Mfg. Co., *Clifton, S. C.*
Consolidated Selling Company, *New York City*
D. E. Converse Company, *Glendale, S. C.*
Cramerton Mills, *Cramerton, N. C.*
Cranston Print Works, *Cranston, R. I.*
Dallas Mfg. Co., *Huntsville, Ala.*
Davis Mills, *Fall River, Mass.*
Deering, Milliken & Company, *New York City*
Drayton Mills, *Spartanburg, S. C.*
Dunean Mills, *Greenville, S. C.*
Easley Cotton Mills, *Liberty, S. C.*
Erwin Cotton Mills, *West Durham, N. C., Cooleemee, N. C., Erwin, N. C.*
Galey & Lord, *New York City*
Gluck Mills, *Anderson, S. C.*
Gossett Mills, *Anderson, S. C., Pendleton, S. C., Williamston, S. C.*
Grosvenor-Dale Corp., *North Grosvenor Dale, Conn.*
Harmony Mills, *Cohoes, N. Y.*
Hartwell Mills, *Hartwell, Ga., Toccoa, Ga.*
Hunter Mfg. & Commission Co., *New York City*
Indian Head Mills of Ala., *Cordova, Ala.*
Inman Mills, *Inman, S. C.*
Iselin-Jefferson Co., *New York City*
Ivey Mill Corp., *Hickory, N. C.*
Judson Mills, *Greenville, S. C.*
Jno. P. King Mfg. Co., *Augusta, Ga.*
B. B. & R. Knight Corp., *Providence, R. I., Arctic, R. I., Natick, R. I., Pontiac, R. I., West Warwick, R. I.*
Laurens Cotton Mills, *Laurens, S. C.*
Lawrence & Co., *New York City*
Lawton Mills, *Plainfield, Conn.*
Lonsdale Company, *Lonsdale, R. I., Ashton, R. I., Berkley, R. I., Hope, R. I., Blackstone, Mass., Seneca, S. C.*
Manville Jenckes Co., *Pawtucket, R. I., Gastonia, N. C., High Shoals, N. C., Central Falls, R. I., Georgiaville, R. I., Woonsocket, R. I.*
Maverick Mills, *East Boston, Mass.*
Middlesex Bleach & Dye Works, *Somerville, Mass.*
Mills Mill, *Greenville, S. C., Woodruff, S. C.*
Monarch Mills, *Union, S. C., Lockhart, S. C.*
Mt. Vernon-Woodberry Mills, *Baltimore, Md., Tallasee, Ala., Columbia, S. C.*
Nashawena Mills, *New Bedford, Mass.*
Nashua Mfg. Co., *Nashua, N. H., Lowell, Mass.*
Neild Mills, *New Bedford, Mass.*
Oconee Mills Co., *Westminster, S. C.*
Pacific Mills, *Lawrence, Mass., Dover, N. H., Columbia, S. C., Lyman, S. C.*
Passaic Print Works, *Passaic, N. J.*
Pelzer Mfg. Co., *Pelzer, S. C.*
Piedmont Mfg. Co., *Piedmont, S. C.*
Potomska Mills, *New Bedford, Mass.*
Queen City Cotton Co., *Burlington, Vt.*
Reeves Bros., *New York City*
Republic Cotton Mills, *Great Falls, S. C.*
Riverdale Mills, *Enoree, S. C.*
Robertson Bleachery & Dye Works, *New Milford, Conn.*
Saxon Mills, *Spartanburg, S. C.*
Scranton Lace Company, *Scranton, Pa., Clarks Summit, Pa.*
Spartan Mills, *Spartanburg, S. C.*
Spencer Corp., *Spindale, N. C., Rutherfordton, N. C.*
Steele's Mills, *Rockingham, N. C.*
J. P. Stevens & Co., *New York City*
Sudanette Co., *New Bedford, Mass.*
Suncook Mills, *Suncook, N. H.*
Totokett Mfg. Co., *Norwich, Conn.*
Tripp, Kory & Genne, *New York City*
Turner Halsey & Co., *New York City*
Union-Buffalo Mills, *Union, S. C., Buffalo, S. C., Fairmont, S. C.*
United Merchants & Mfrs., *Boston, Mass., Jewett City, Conn., Fall River, Mass., New Bedford, Mass., Newton, Mass., Bath, S. C., Clearwater, S. C., Langley, S. C.*
United States Finishing Co., *New York City, Norwich, Conn., Sterling, Conn., Cedartown, Ga., Pawtucket, R. I., Providence, R. I.*
Victor Monaghan Company, *Greenville, S. C., Arlington, S. C., Greer, S. C., Walhalla, S. C.*
Victory Mfg. Co., *Fayetteville, N. C.*
Waldrick Bleachery, *Delawanna, N. J.*
Wallace Mfg. Co., *Jonesville, S. C.*
Wamsutta Mills, *New Bedford, Mass.*
Warren Mfg. Co., *Warren, R. I.*
Warwick Mills, *West Warwick, R. I.*
Watts Mills, *Laurens, S. C.*
Ridley Watts & Co., *New York City*
Wellington Sears & Co., *New York City*
Wilson & Bradbury, *New York City*
Woodward Baldwin & Co., *New York City*

Graduated Indicator grid bar adjustment





on the new Woonsocket "Spirawhirl" Cleaner

ALL the guesswork taken out of grid bar adjustment! Our Graduated Indicator Feature does it. It shows the operator at a glance the setting of his grid bars. It makes possible a written record of just the right settings for various grades of cotton. It is easy to duplicate these settings exactly. The grid bars and circles are machine finished, insuring the utmost accuracy.

If some form of grid bar adjustment is necessary—and it is—then the more perfect the adjustment, the better work you get. Because our new Indicator is exact, it helps produce cleaner cotton, and saves time as well.

The Spirawhirl Principle

The new Woonsocket "Spirawhirl" Cleaner has a series of baffle plates in the top of the cleaner. These are placed at such an angle that as the cotton whirls around, it is thrown definitely sidewise toward the outlet. It advances positively each revolution. The result is that all cotton is in the Cleaner the same amount of time and gets equal treatment.

Inquire further about the Spirawhirl and its Graduated Indicator for exact setting of the grid bars!

Put a Spirawhirl in your present line of opening equipment and watch the results!

Export Office: Pawtucket, R. I. Southern Offices: Woodside Bldg., Greenville, S. C.

WOONSOCKET MACHINE & PRESS CO., INC.
Opening, Picker, Carder, Drawing and Roving Machinery
WOONSOCKET, R. I.

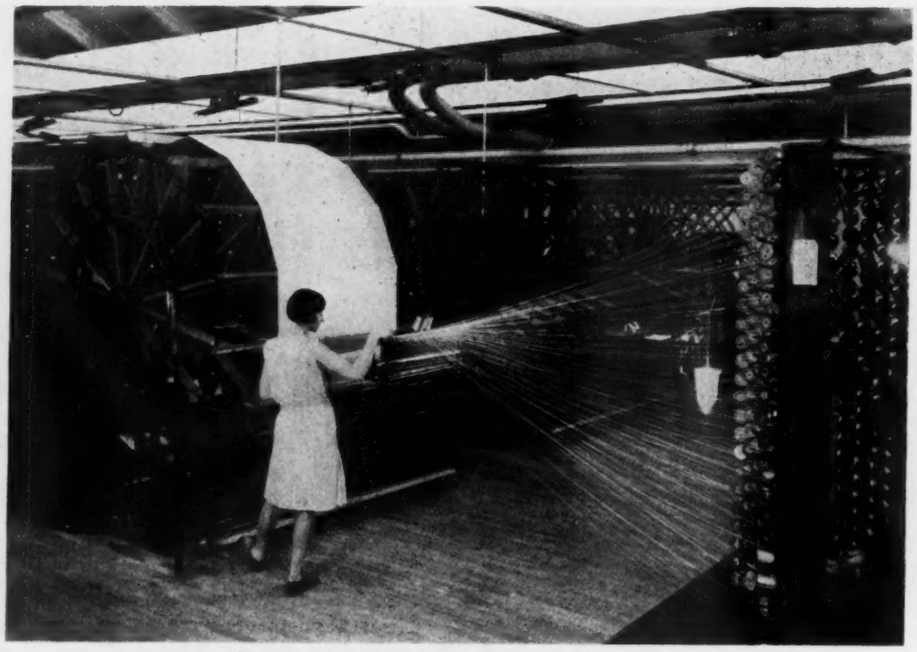
FALES & JENKS MACHINE COMPANY
Spinning and Twisting Machinery
PAWTUCKET, R. I.

EASTON & BURNHAM MACHINE COMPANY
Spooling, Warping and Winding Machinery
PAWTUCKET, R. I.

Cotton Preparatory Machinery from Bale to Loom

MANUFACTURED WEATHER

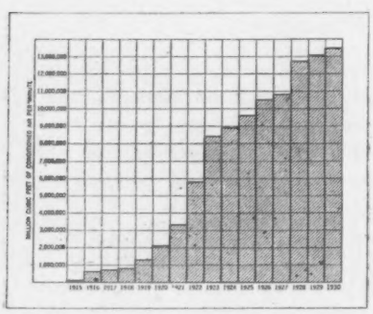
for Rayon and other Synthetic Fibers



In the Marcus Hook, Pa., plant of The Viscose Company, as in their four other plants, Manufactured Weather plays an indispensable part in the production of Rayon.

FROM a few thousand pounds a scant sixteen years ago to an estimated 130 million pounds this year, is the amazing increase in the production of rayon and other synthetic fibers in American plants.

To make this vast production possible, Manufactured Weather is being supplied to these plants at the rate of nearly 14 million cubic feet per minute . . . to plants producing more than 90% of the rayon and the other fibers manufactured in this country. Abroad, too, more than 90% of the total output is manufactured in Carrier-conditioned plants.



The growth of the Industries producing Rayon and other Synthetic Fibers in America is indicated graphically by this chart showing the number of cubic feet of Manufactured Weather supplied each minute. The total is now nearly 14 million.

Manufactured Weather is an always essential factor in the manufacture of these fibers. It automatically cleans outdoor air of impurities before delivering it indoors . . . it automatically regulates the temperature and humidity of this air . . . it automatically controls its movement throughout the plant.

In the production, too, of cotton, wool and silk, Manufactured Weather plays a highly essential part in providing atmospheric conditions conducive to maximum production and to the efficiency and health of employees.

Long service in the design and installation of air conditioning equipment, paralleled by study and experimentation in the mills and in the laboratories, has given Carrier engineers an unusual knowledge of the reactions of the various textiles to atmospheric conditions at every stage of production and fabrication.

Complete air conditioning is one of the very important steps in mill and plant modernization for economy . . . efficiency . . . profit.

A study right now of your mill air conditions would be a wise step and would cost you nothing. Arrange for our engineers to meet with you and your engineers on this important problem.

Write to Newark or any of our offices listed below.

Carrier Engineering Corporation

NEWARK, NEW JERSEY

OFFICES: New York, Philadelphia, Boston, Chicago, Cleveland, Detroit, Washington, Dallas, Los Angeles
EXPORT DIVISION: 505 Fifth Avenue, New York

CARRIER ENGINEERING COMPANY, LTD.
LONDON, PARIS, BOMBAY, CALCUTTA, JOHANNESBURG

Carrier
AIR CONDITIONING
DRYING
REFRIGERATION

CARRIER LUFTTECHNISCHE GESELLSCHAFT
STUTTGART, BERLIN

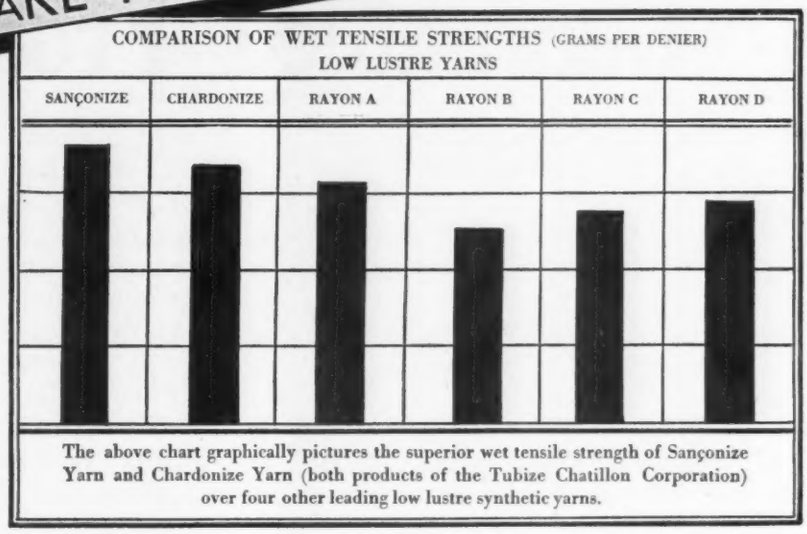
CHARDONIZE *and* SANÇONIZE

..*are* STRONG *yarns*

The OPAKE PROCESS IS THE REASON

Because Fashion demands a soft dull lustrous appearance for both men's and women's hosiery and underwear, knitters should know what to expect of low lustre yarns. The strength of these comparatively new yarns is one of the important points to investigate since wear is one of the essential qualities required.

We have just completed a test of six leading low lustre yarns to determine their comparative wet tensile strength. The results are shown in this chart.



The above chart graphically pictures the superior wet tensile strength of Sançonize Yarn and Chardonize Yarn (both products of the Tubize Chatillon Corporation) over four other leading low lustre synthetic yarns.

Chardonize and Sançonize are nitrocellulose yarns, both manufactured by the Opake process which, developed and perfected after months of intense research work, is the marvel of the entire synthetic yarn industry. Besides giving to yarns the *permanent* dull lustre for which it is now famous, the Opake process strengthens the yarn itself, assuring satisfactory wearing qualities. This development in Chardonize and Sançonize is another achievement of the Tubize Chatillon Corporation perfected at the company's plant at Hopewell, Va.

Both these yarns are soft, uniform and handle easily and economically. Both are offered in the popular deniers. The soft dull appearance now so fashionable will last as long as the merchandise itself and complete satisfaction will be assured in spite of constant wear and many washings.

For further information address our New York Office

TUBIZE CHATILLON CORPORATION . . . TWO PARK AVENUE, NEW YORK CITY

FACTORIES:—ROME, GA.—HOPEWELL, VA.

Manufacturers of Acetate, Nitro Cellulose and Viscose Yarns of Distinction

© 1930 T. C. Corp.

"There is but one best in everything"

TRADE MARK
TUFFER
REG. U.S. PAT. OFF.
CARD CLOTHING

A Thoroughly Reliable and Guaranteed Product

THAT is why you should put your card room in tip top condition to take care of your mill's requirements. Make the process profitable by installing Tuffer Card Clothing by Howard Bros.

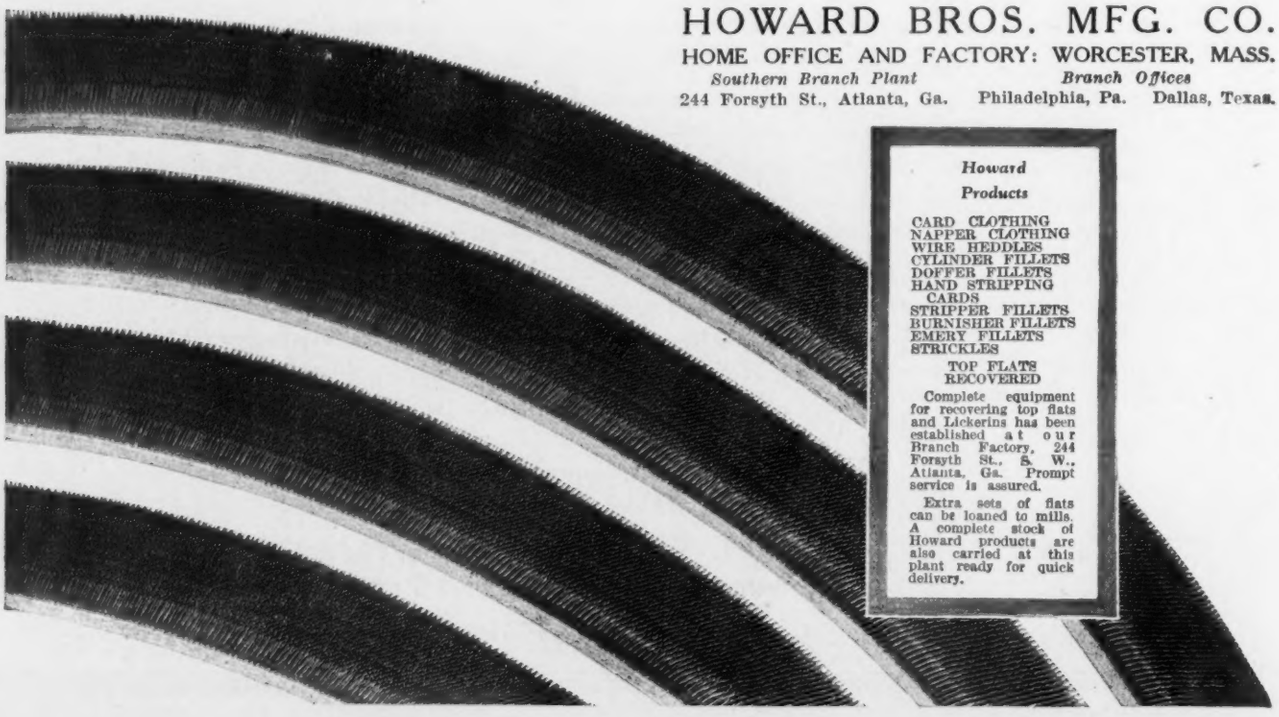
This is not an idle statement—but the culmination of the following factors:

Tuffer Card Clothing is made from the best quality of steel material, produced in Sweden . . . a tougher, stronger wire that is easily ground, yet having no brittle points. It will not hook. It holds point for an unusually long time.

And of course the famous patented Howard fabric foundation of the clothing is not to be overlooked. It is made in our own factory. It is tough and WILL NOT SHELL OUT. It is flexible, still retaining a sufficient amount of firmness to hold wire properly. It is held together by a special glue that is positively oil-proof.

Tuffer Card Clothing carries an iron clad guarantee that you cannot afford to overlook.

HOWARD BROS. MFG. CO.
HOME OFFICE AND FACTORY: WORCESTER, MASS.
Southern Branch Plant 244 Forsyth St., Atlanta, Ga.
Branch Offices Philadelphia, Pa. Dallas, Texas.



Howard Products

CARD CLOTHING
NAPPER CLOTHING
WIRE HEDDLES
CYLINDER FILLETS
DOFFER FILLETS
HAND STRIPPING CARDS
STRIPPER FILLETS
BURNISHER FILLETS
EMERY FILLETS
STRICKLES

TOP FLATS RECOVERED

Complete equipment for recovering top flats and Lickerins has been established at our Branch Factory, 244 Forsyth St., S. W., Atlanta, Ga. Prompt service is assured.

Extra sets of flats can be loaned to mills. A complete stock of Howard products are also carried at this plant ready for quick delivery.

Production Increased Nearly a Half Without Any Plant Alterations

APPLICATION of the Bedaux Principle of labor measurement and control in over 300 industrial plants has resulted in an average increase of 44 per cent in production.

Concurrently, wages have been increased by an average of 15 per cent, and labor costs have been reduced by 20 per cent. Thus millions of dollars have been added to pay envelopes, and millions more have gone into larger profits.

And this without any expenditure whatever for plant alteration or new equipment. For "Bedaux" deals only with the human element in industry. It encourages every worker to do his best and pays him a premium for doing so. It searches out wasted energy and directs it into productive channels.

"Bedaux" yields almost immediate returns. In many cases the entire cost of application is covered by the increased profits of a few months.

Let us give you further details of this tested, practical principle.

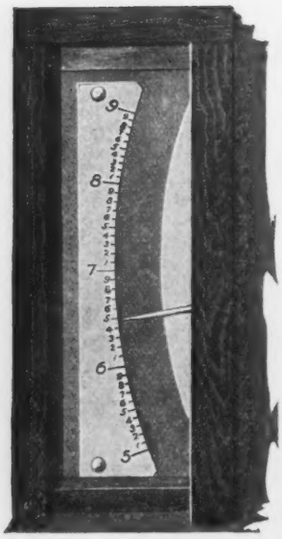
THE CHAS. E. BEDAUX COMPANY
OF NEW YORK, INC

DOUGLAS S. KEOGH, *President*
271 MADISON AVE.,
NEW YORK CITY

H. B. CRAFT, *Vice-President*
in charge of Southern Operations,
30 CAMDEN ROAD, ATLANTA, GA.

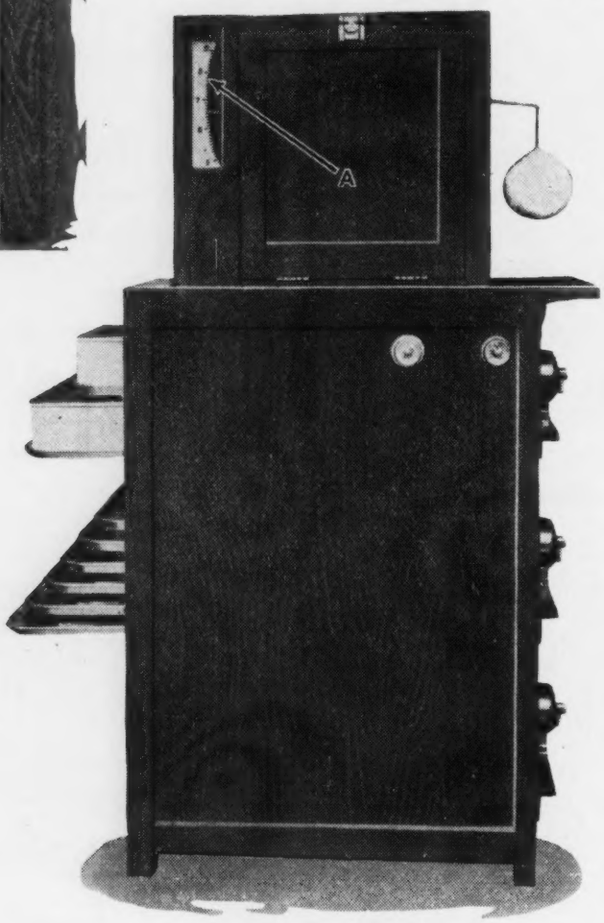
Every Mill Needs A Laboratory

The demands of the trade are constantly for better goods.



BETTER yarn and better cloth are not the results of accidents, but of careful, intelligent, and painstaking experiments with different possible methods of improving the product.

No intelligent conclusions can be drawn from such experiments unless all the tests and observations are made under controlled atmospheric conditions. This means that a laboratory is a necessity.



Aldrich Regain Controller

In fact, tests made without laboratory control are often worse than useless, as they are misleading.

An Aldrich Regain Controller solves the laboratory problem for the small mill as well as the large one, as it costs very little, can be operated by anyone, and will convert any small room into a perfectly conditioned laboratory in an hour.

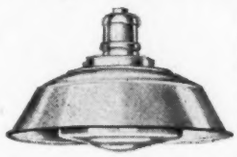
AldricH MachinE WorkS

Greenwood, South Carolina

An Aldrich Regain Controller will turn any small, closed room into a perfectly controlled laboratory in an hour.

Skilled hands are shackled by the Twilight Zone*

THE sure touch and quick comprehension of the trained workman are wasted in the twilight zone. For partial darkness can result only in partial efficiency. The half-light of the twilight zone deceives because it promises the freedom that only correct lighting can give . . . without indicating that many of the handicaps of darkness are still present.



Remove the handcuffs of twilight zone illumination under which 87% of American factories operate. Provide the help and the incentive to greater efficiency that comes with lighting scientifically planned and correctly installed.

On MAZDA Avenue

In the Westinghouse Lighting Institute a fully equipped factory scientifically demonstrates every type of industrial lighting —

Open to visitors

Daily 9 to 5 — Saturday 9 to 12
7th Floor, Grand Central Palace, New York City
—around the corner from your hotel

You will find in the Westinghouse lighting specialist a man who understands thoroughly how to help you make your lighting pay you a profit. Let one of these trained men show you how lighting can serve you more efficiently.

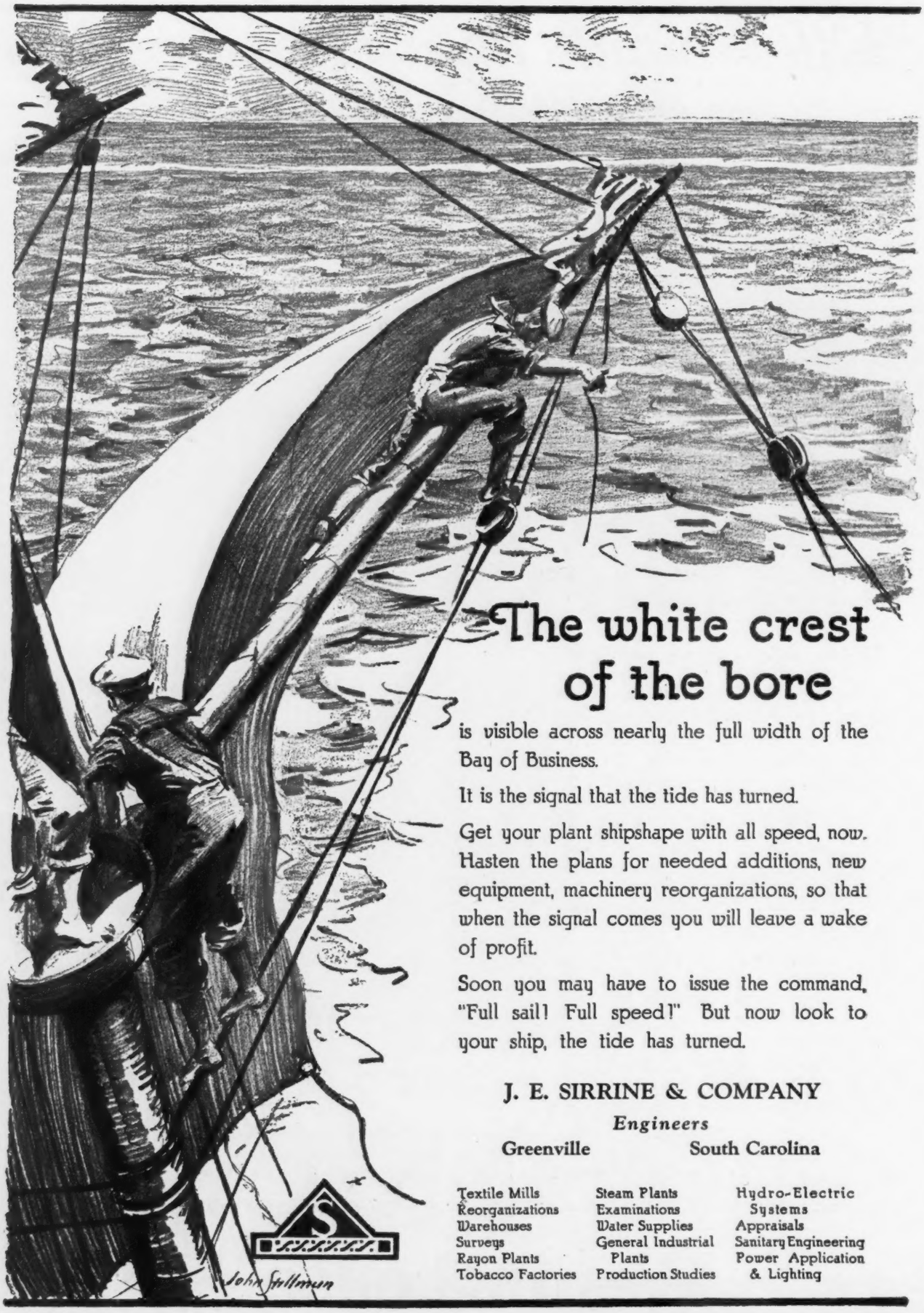
The way out of the Twilight Zone

For those interested in using light effectively an interesting, illustrated booklet, "The Way Out of the Twilight Zone," is available. Write for a copy to the Westinghouse Lamp Company, Department 203, 150 Broadway, New York, N. Y.

**The deceptive half-light between obvious darkness and adequate illumination.*

Westinghouse Lighting Specialists will help you plan an effective lighting system

Westinghouse



The white crest of the bore

is visible across nearly the full width of the Bay of Business.

It is the signal that the tide has turned.

Get your plant shipshape with all speed, now. Hasten the plans for needed additions, new equipment, machinery reorganizations, so that when the signal comes you will leave a wake of profit.

Soon you may have to issue the command, "Full sail! Full speed!" But now look to your ship, the tide has turned.

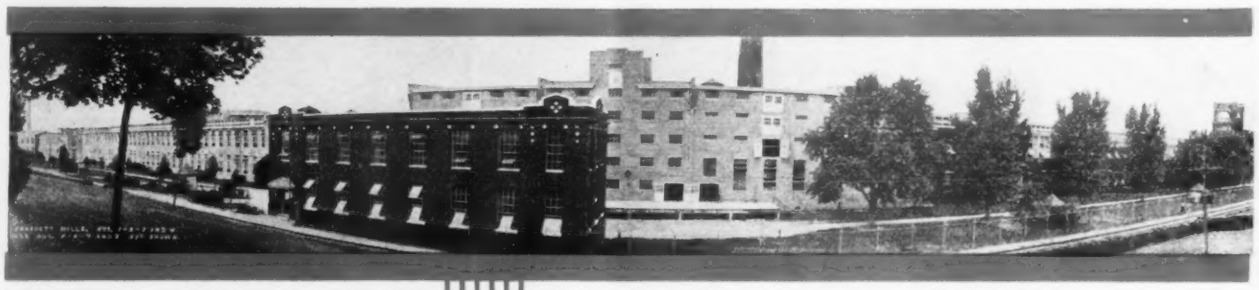
J. E. SIRRINE & COMPANY

Engineers

Greenville South Carolina

Textile Mills	Steam Plants	Hydro-Electric Systems
Reorganizations	Examinations	Appraisals
Warehouses	Water Supplies	Sanitary Engineering
Surveys	General Industrial Plants	Power Application & Lighting
Rayon Plants	Production Studies	
Tobacco Factories		

Wiscassett Mills, *too*, use the S-W Paint Standardization Plan...



S-W Save-Lite on walls and ceilings increases working light 30% to 50%. Improves production and morale. Reduces spoilage and accidents.

WHEN leaders in any industry show a strong preference for certain standards of practice, it's a good sign that such practices save them money or bring some other advantages that could not be secured in any other way.

The great Wiscassett Mills, shown above, are included in that ever-growing list of important textile units that find the S-W Paint Standardization Plan a practical step toward substantial operating and maintenance savings.

The world's largest manufacturers of protective coatings set themselves the task of producing finishes for the textile industries to best meet the specific needs of each surface. S-W Save-Lite Industrial White Finishes were the result.

When applied to walls and ceilings in accordance with the S-W Paint Standardization Plan, Save-Lite Gloss, Eg-Shell or Flat White increases working light from 30% to 50% by reflecting and diffusing it into every angle and recess of a room. As a result, production is increased, accidents and spoilage are reduced, and morale is raised.

Let S-W Paint Engineers show you how to save money on your paint investment. Write to the Sherwin-Williams Co., Dept. 729, Cleveland, Ohio.

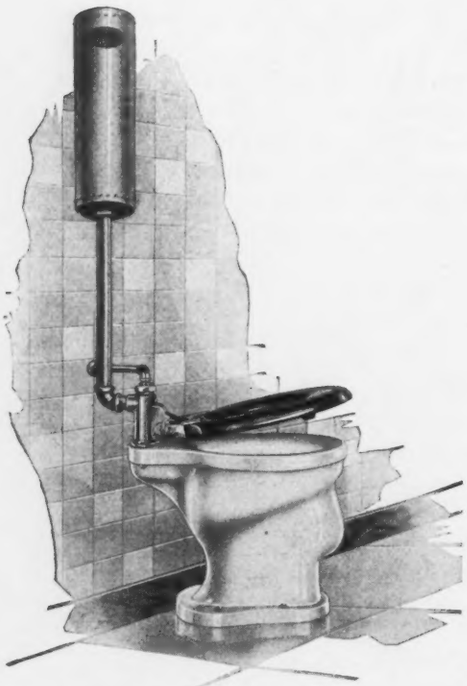
NOTE: Our offices at Philadelphia, Charlotte, Atlanta, and 247 East Main St., Spartanburg, S. C., are maintained for the convenience of mill owners and operators in these sections.

SHERWIN-WILLIAMS SAVE-LITE

VOGEL PATENTED NUMBER TEN AND TEN-A CLOSETS BRING STILL GREATER EFFICIENCY INTO YOUR PLANT . . . .

—and because of their economical performance, become an efficient part of the operation of your plant.

Vogel Number Ten-A seat-action closet combination, with tank concealed.



Vogel Number Ten Seat-Action Closet with exposed tank.

The fact that a Vogel Number Ten Outfit, taken from stock, put on an endurance test under actual operating conditions, has now flushed 230,000 times, and not even a washer has been renewed, is actual proof of what these closets will do. Also, being seat-action closets, they cannot remain unflushed.

Install these really modern sanitary closets in your plant. They will operate for years without repairs.

JOSEPH A. VOGEL COMPANY
WILMINGTON, DEL. ST. LOUIS, MO.

VOGEL PATENTED *Products*

INSTALLED BY PLUMBERS EVERYWHERE

Retards moisture penetration . . . won't discolor

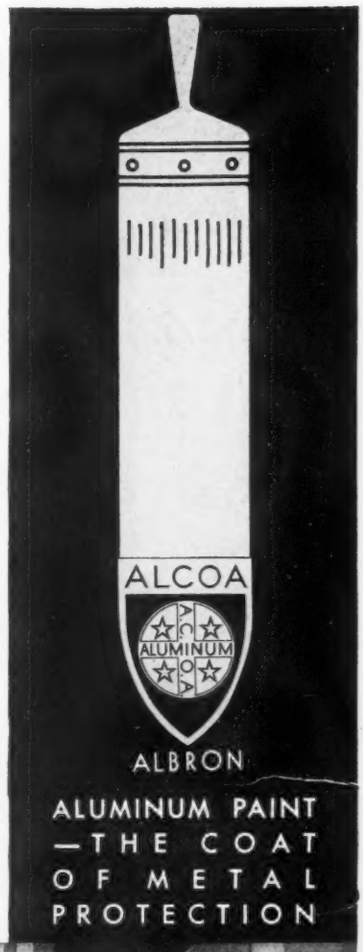
Try aluminum paint on the toughest place for paint in your mill—on dye-room walls and ceilings—even on the machinery in this section. Here is a paint that will give you a new idea of how long a paint film can last. Resistant to the action of dye-room fumes, retarding the penetration of moisture, checking the formation of rust, it lasts and lasts. When you use aluminum paint you will find that the time between painting jobs will be greatly lengthened.

And for inside use, aluminum paint has another great advantage. It seems to bring more daylight indoors, because it reflects light rays. Use it, and you need to turn on fewer lights during daylight hours.

Aluminum paint owes its superiority to its pigment—minute, thin, flat flakes of pure Alcoa Aluminum. When brushed or sprayed on, these flakes "leaf" to form a *coat of metal protection* that is durable, long-lasting.

Aluminum Company of America does not sell paint. But aluminum paint made with satisfactory vehicles and Alcoa Albron Powder may be purchased from most reputable paint manufacturers, jobbers and dealers. Be sure the pigment portion is Alcoa Albron and is so designated.

Let us send you the booklet, "Aluminum Paint, the Coat of Metal Protection". Address ALUMINUM COMPANY *of* AMERICA; 2424 Oliver Building, PITTSBURGH, PENNSYLVANIA.



ALCOA ALBRON
POWDER FOR
ALUMINUM PAINT

Mills that can't afford *Moisture Damage*

call on Corkboard for adequate, permanent roof insulation

CEILING drip is a profit-pirate in textile mills. When drip spoils yarns and finished product, and damages machines, hundreds of dollars are lost. But many mills refuse to take this loss.

These modern mills protect their roofs (and ceilings) with adequate insulation—Armstrong's Corkboard. They find that corkboard insulation checks condensation. No longer can ceiling drip spot and stain textiles. Nor can it rust machinery.

Important steps to economy

In these textile mills Armstrong's Corkboard Insulation also stops the rotting of roof decks. Since condensation is permanently checked, moisture cannot attack and decay the roof. Here is another economy.

Other advantages merit your attention. There is the saving in fuel dollars, the added comfort inside the plant both summer and winter, and the firm, substantial, and non-buckling base for the roofing.

We can help you

If moisture damage and rotting roof decks are costing you money, we suggest that you consult our engineers. They will gladly recommend the just-right thickness of Armstrong's Corkboard for your mill. This adequate thickness can be secured in a single layer—which means easier, quicker installation and a saving in labor costs.

Write to us for a copy of the illustrated book, "The Insulation of Roofs to Prevent Condensation." There are a great many facts which you should know. We are sure that this book can be of considerable assistance to you. Mailed to you, free of charge. Of course, there is no obligation. Armstrong Cork & Insulation Co., 906 Concord Street, Lancaster, Pa.

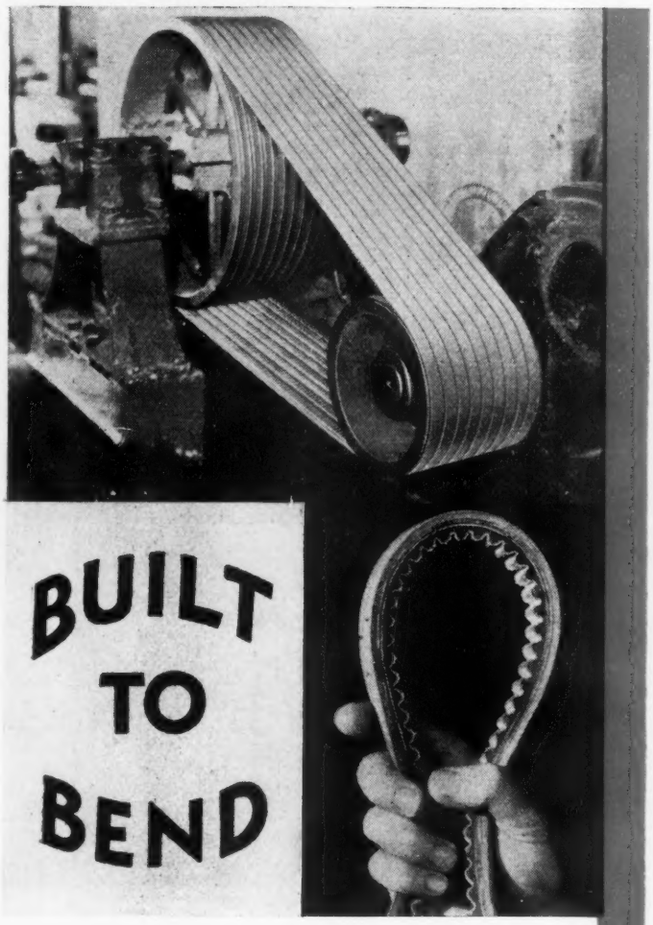
Another mill finds 2" Armstrong's Corkboard adequate for roof insulation! Installed on wood plank deck and covered with 5-ply built-up roofing. Plans and specifications by the mill engineering department.

Armstrong's (A) Product

Armstrong's Corkboard Insulation

for the roof of every building

Dayton COG-BELT DRIVES . . solve the HARDEST power transmission problems



FIRST The cog construction permits Dayton Cog-Belts to bend naturally and easily around even the smallest pulleys without distortion, buckling or rippling. Dayton's cog construction is an exclusive patented feature. It is found only in Dayton Cog-Belts.

SECOND The "Neutral axis" or strength section, extends straight across the entire width of the belt. Die-cut and pre-stretched permanently by a patented and exclusive Dayton process. That's why Daytons have a firmer grip, smoother action, and require less maintenance.

THIRD The outer section gives balance. Composed of numerous layers of vulcanized, strong bias-cut fabric. Bias-cut to accommodate bending without strain or distortion. This is another reason why Daytons don't heat and last longer than other belts.

DAYTON Cog-Belt Drives have proved their right to power-transmission leadership because *they last longer* and *operate more efficiently.* Test after test has proved that Daytons outlast all other V-Belts as much as three to one. Actual service operations show the same results and machinery manufacturers are now standardizing on Dayton Cog-Belt Drives and production managers are specifying Daytons for V-Belt replacements because of their long life and low maintenance cost.

And remember this—only with Dayton Cog-Belts can you get Dayton results. Only in Dayton Cog-Belts can you get the patented cog construction, the die-cut edges, the exclusive vulcanizing process for prestretching the cords and fabric permanently —all positive and proven features that are necessary for longer life and greater efficiency. The Dayton Rubber Manufacturing Company has licensed no other manufacturer to use any of these exclusive Dayton principles.

Write today for a sample section of the belt and see for yourself why this remarkable V-Belt is superior to all others.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO

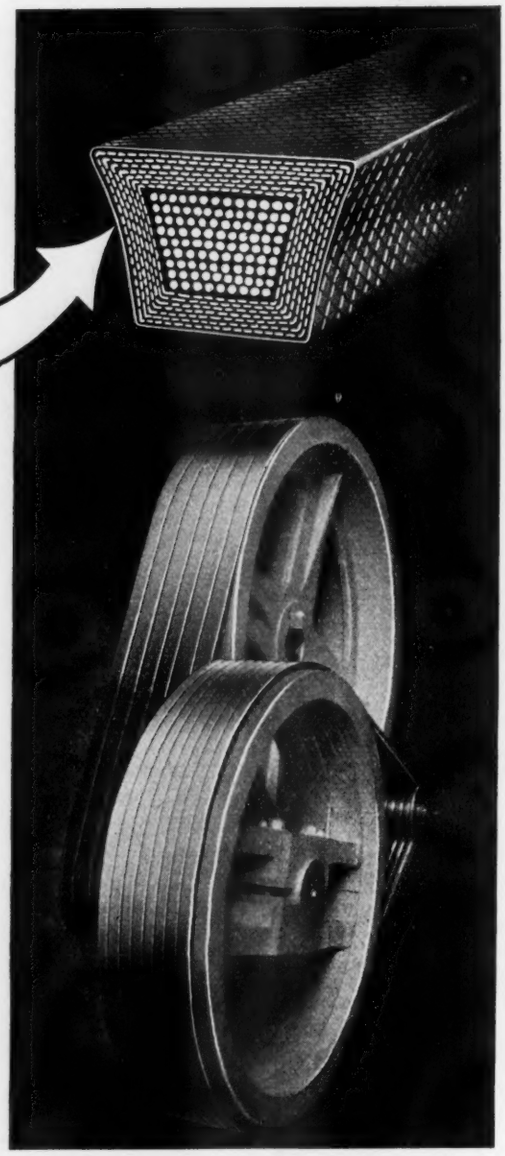
Factory Distributors in Principal Cities and all Westinghouse Electric and Manufacturing Company Sales Offices

O-99

Complete Drives—Pulleys and Belts—in stock—all ratios 2 H. P. to 100 H. P.

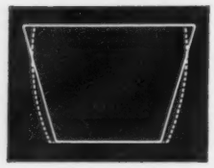
Every Engineer Knows Why a V-Belt Should Have This

Concave Side



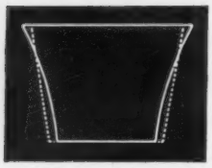
The reason is simple. Take a V-belt that has the ordinary *straight* sides. Bend it as it bends in going around a pulley. You will see the top of the belt grow *narrower,* the bottom *wider,* while the sides of the belt *bulge out.*

Fig. 1



The bending forces the *straight-sided* belt to assume the shape shown by the white dotted lines in figure 1. This shape does not fit the sheave groove. *Two* results are clear: (1) The bulging produces *uneven wear* on the sides of the belt—*shorter life!* (2) The full side of the belt does not uniformly grip the pulley — a definite loss in efficiency.

Fig. 2



Now bend the belt built with the *concave* side (patent pending)—the Gates Vulco Rope.

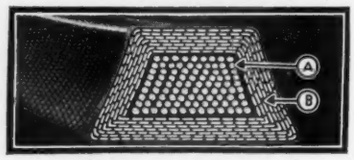
How different! As this belt bends, the *concave* side becomes *straight.* (Fig. 2.) It *exactly fits* the sheave groove. Two *advantages.* (1) Wear is evenly distributed over the whole side of the belt---*longer life!* (2) Entire side of the belt uniformly grips the pulley —full *delivery of power!*

Send for this Helpful Book Today

Without obligation, our engineering department will assist in designing a drive that efficiently meets your needs. This book, mailed free, will give you valuable information.

EFFICIENT SILENT CLEAN

COMPACT DURABLE ECONOMIC



PATENTED CONSTRUCTION

United States Patents 1,354.738 and 1,400,539 protect both the principle and the construction of a V-belt having a center of endless cords (for strength) with a bias-cut cover (for flexibility and long wear).

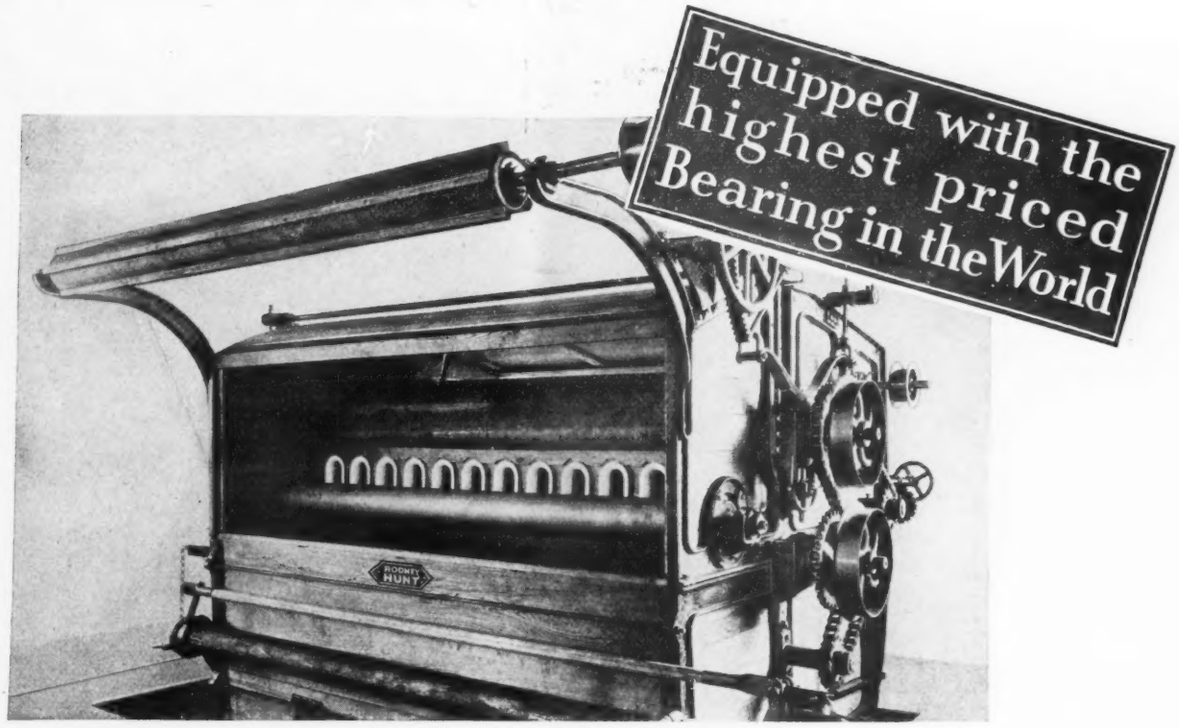
GATES VULCO ROPE

Multiple V-Belt Drives

Manufactured by Gates Rubber Company, Denver, Colorado,—The World's Largest Manufacturers of V-Belts

ANOTHER MANUFACTURER IN THE TEXTILE INDUSTRY THAT USES SKF BEARINGS

RODNEY HUNT MACHINE CO.



FOR DEPENDABLE PERFORMANCE...ALWAYS RODNEY HUNT USES SKF BEARINGS

"HELPS manufacturers put speed into their finishing rooms." says Rodney Hunt of their new "Clipper" Cloth Washers, and of course they use SKF Ball Bearings to reduce friction to a minimum; cut operating costs and increase quality and production. SKF are on the felt and back cleat rolls of the washer.

On all types of textile machinery, where performance takes preference over price, there you will find SKF Bearings. Such confidence of leading textile machinery manufacturers has come only through years of intimate experience with SKF on the job. There is no guess work. Where the highest standards of service must be zealously maintained, SKF Bearings can always be depended on for their part in making the operation of the whole uniformly successful.

SKF INDUSTRIES, INC., 40 East 34th Street, New York, N. Y.

2594

EQUIPPED WITH THE HIGHEST PRICED BEARING IN THE WORLD

Means just this

SKF

Ball and Roller Bearings

That the manufacturers whose product is illustrated above preferred to pay more for their bearings and less for servicing or replacing them. They preferred to pay a higher price in the beginning than many times this higher price in the end. And, finally, they preferred to economize by using SKF bearings because they are made to do their job, not to fit a price list.

An IMPROVED for

The things you need to do * * * and want to do easily * * * to insure a good printing job with no time wasted, can be done with Reliance Motor-drive.

Speed adjustments over printing ranges as high as 20 to 120 yards a minute for cotton (10 to 60 yards for silk) meet all operating conditions.

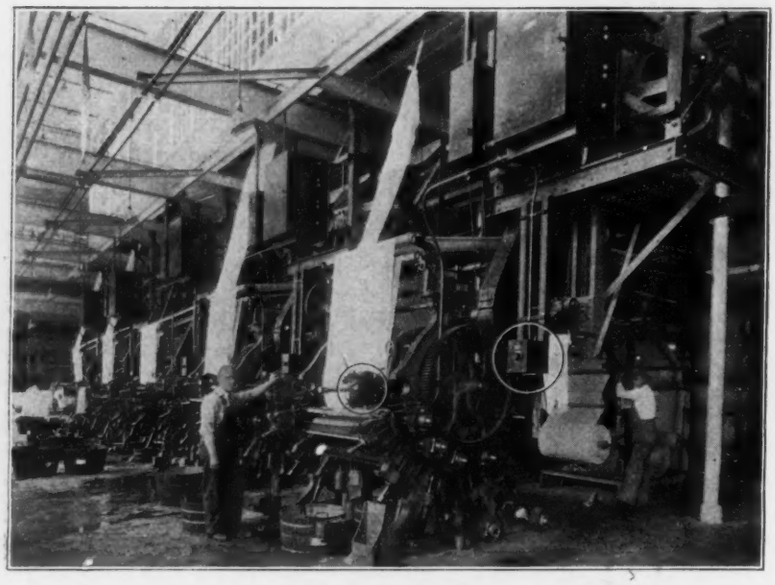
A slow speed of 10 yards or 5 yards a minute facilitates threading, the matching of colors, and inspection. The machine may be run continuously at this slow speed if desired.

The control provides for speed changes, also for smooth acceleration and deceleration.

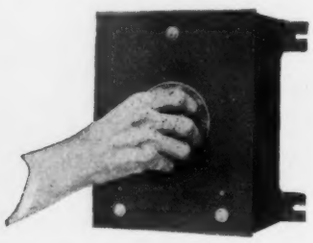
The motor can be stopped quickly with graduated dynamic braking. This saves cloth in case of breaks.

Motors are designed with ample torque to start the machine regardless of the set on the rolls.

Six Printing Machines equipped with Reliance Motor-drive and automatic push-button control. The push-button station and speed control rheostat on the first machine are encircled. The motors with control panels are mounted above.



Printing speeds are adjusted by turning the handle of this rheostat. This operation is separate from any other part of the control. The motor may be stopped, started, or slowed down



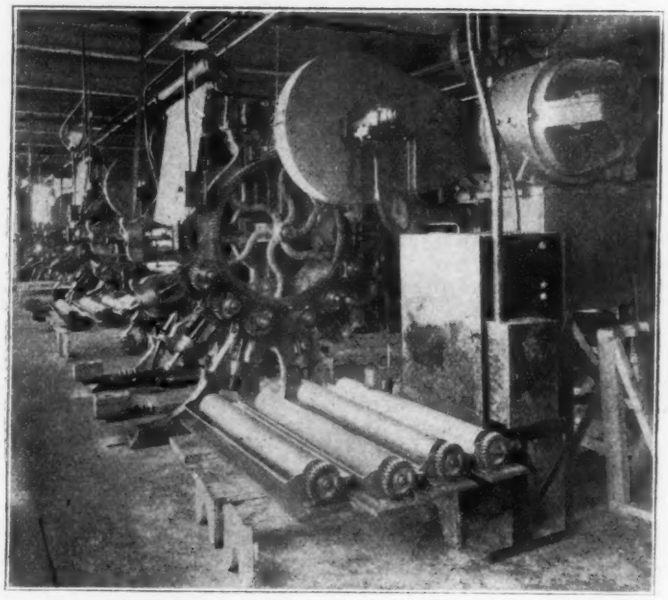
for cloth inspection as often as desired without paying any attention to the setting of the rheostat. The motor always comes up to the point for which the printing speed has been set.

RELIANCE ELECTRIC & ENGINEERING COMPANY
1070 Ivanhoe Road Cleveland, Ohio

Branches: Birmingham, Boston, Buffalo, Chicago, Cincinnati, Detroit, Milwaukee, New York, Philadelphia Pittsburgh, St. Louis, Toledo

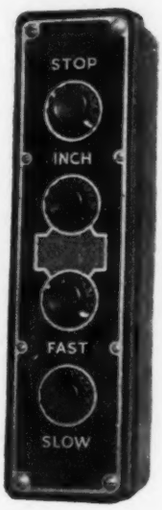
Representatives: Denver, Kansas City, Mo., Knoxville, Los Angeles, San Francisco, Seattle

RELIANCE MOTOR-DRIVE *Printing Machines*



Six-color Silk-Printing Machines equipped with 25 hp. 300-1200 r.p.m. Reliance Motor-drive and control.

If you do not have direct-current power available we shall be glad to offer recommendations which will make it possible for you to use Reliance Motor-drives for printing. Any cost involved will be justified by the better results obtained.



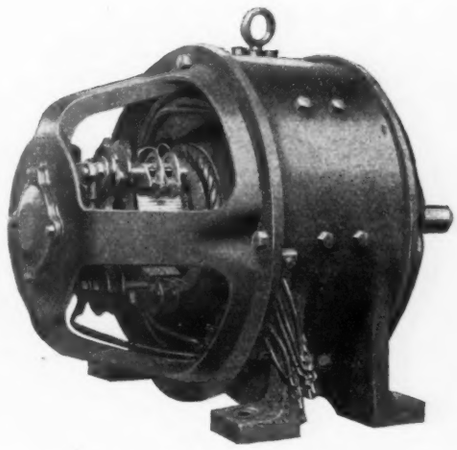
All operations except speed changing are controlled through this compact push-button station. This station has the following control points:

"Inch" Machine runs at 10 yards a minute (5 yards for silk) as long as this button is held down—stops when button is released.

"Slow" Motor accelerates to or slows down to 10 yards a minute (5 yards for silk) when this button is pressed. Machine can be run continuously on this point.

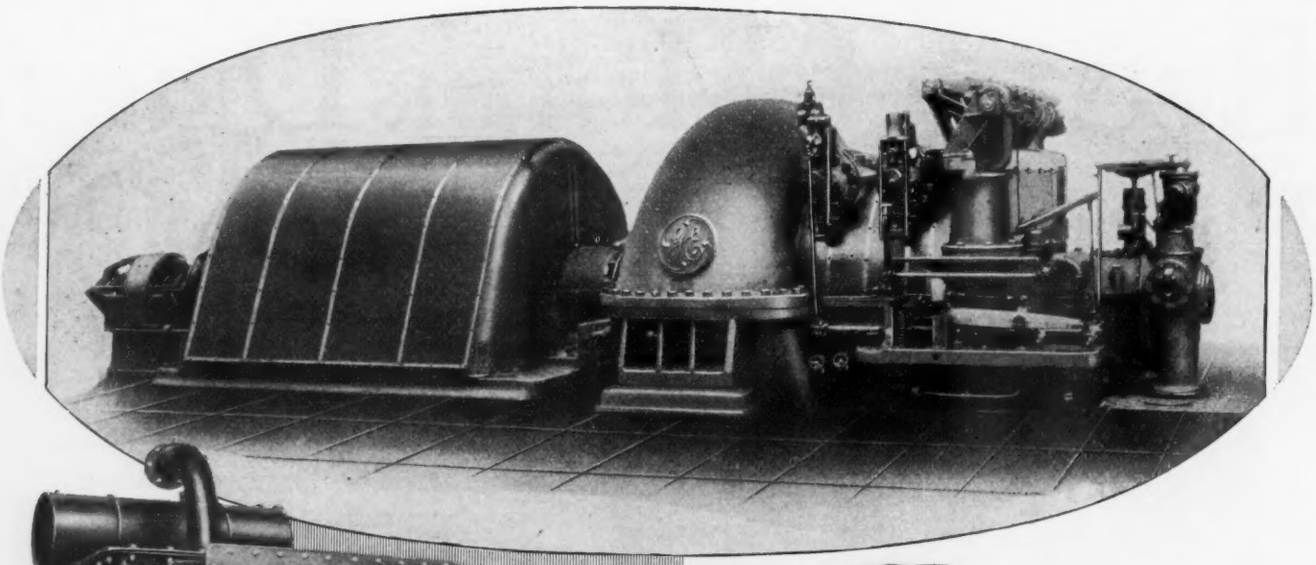
"Fast" Pressing this button brings the motor to the printing speed for which the rheostat is set.

"Stop" With this button the motor is stopped quickly but smoothly by graduated dynamic braking.

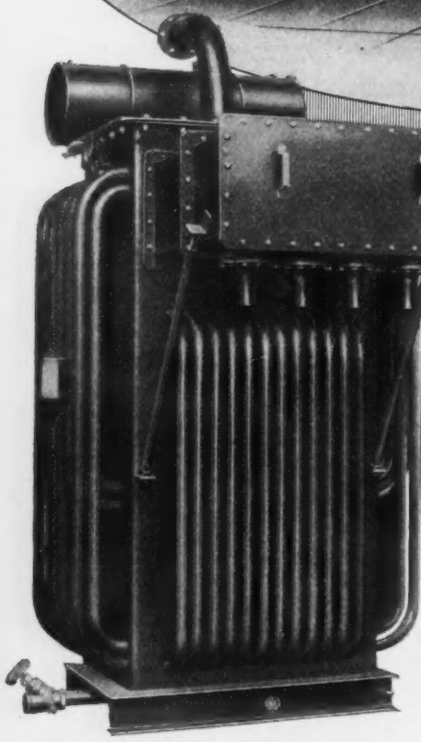


Type T Heavy-duty Reliance Adjustable-speed Motor for direct current.

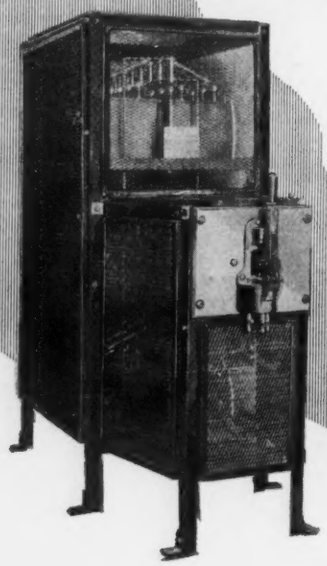
RELIANCE A-C D-C MOTORS
with Ball Bearings



G-E turbine-generator sets, built in all sizes, and designed for condensing, noncondensing, mixed-pressure, and extraction operation, supply power for mill needs, and steam at regulated pressure for textile processes

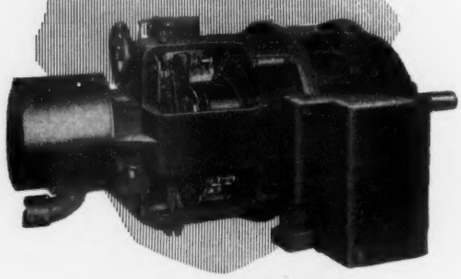


G-E transformers, well designed and of the highest quality throughout, serve as the efficient connecting links between high-voltage supply lines and mill feeders



G-E capacitor units for power-factor improvement. Available for group use or for application to individual motors. Substantial savings may be effected with them

G-E portable, reciprocating air-compressor sets. Indispensable for cleaning machinery and electric equipment with air under pressure



G-E Type BTA adjustable-speed motor—the alternating-current motor with desirable direct-current features

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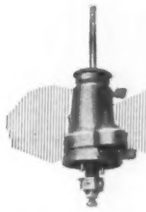
FROM the turbine that supplies electric energy for the mill to the tiny $\frac{7}{100}$-horsepower rayon motor, General Electric apparatus is available for every electrical need of this major industry.

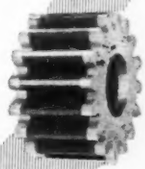
Backed by the research, design, and manufacturing facilities of General Electric, each device pictured on these pages is representative of the best in modern engineering practice.

Ask your nearest G-E office for more complete information and advice on your power requirements.

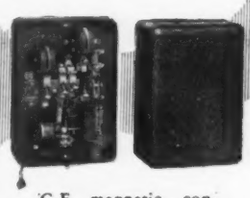


G-E Type KT vertical induction rayon motor

G-E Textolite reversible box-loom picker. Easily installed. Moisture-resisting, no rivets, uniform in quality

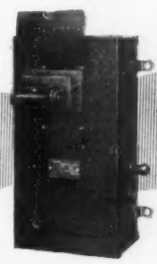


G-E Fabroil pinions—quiet, long-lived transmitters of power

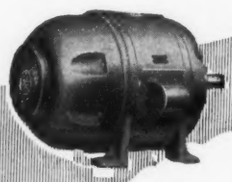


G-E magnetic controller for adjustable-speed, direct-current motors

G-E motor-starting tumbler switch mounted on pedestal

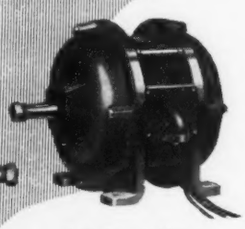


Combination magnetic switch, motor-circuit switch, and fuses. Sturdy, easy to maintain, convenient



G-E totally enclosed, fan-cooled motor. Admirable for dusty operating conditions

G-E Type CD—a thoroughly dependable direct-current motor



G-E Type KT loom motor. Ideal for individual drive

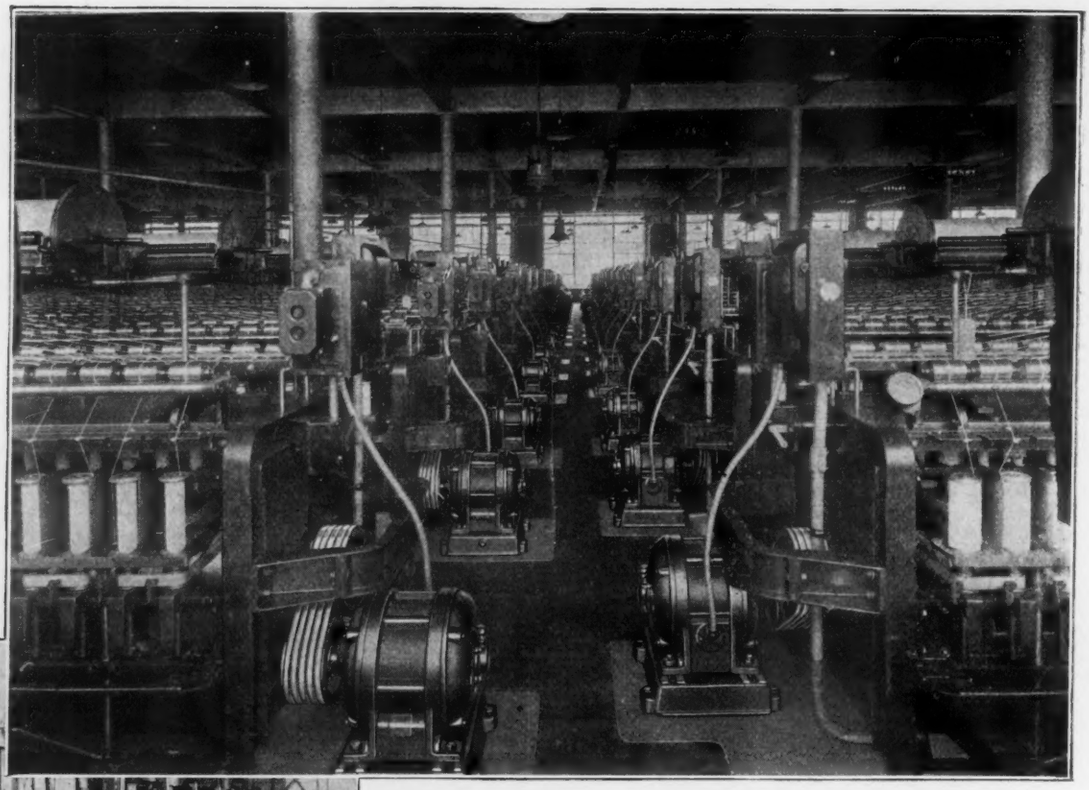
G-E Type KT motor for individual application to preparatory machinery. May be had either with or without screens

G-E switchboards, structurally well built, and mounting all control, meters, etc., for complete power supervision

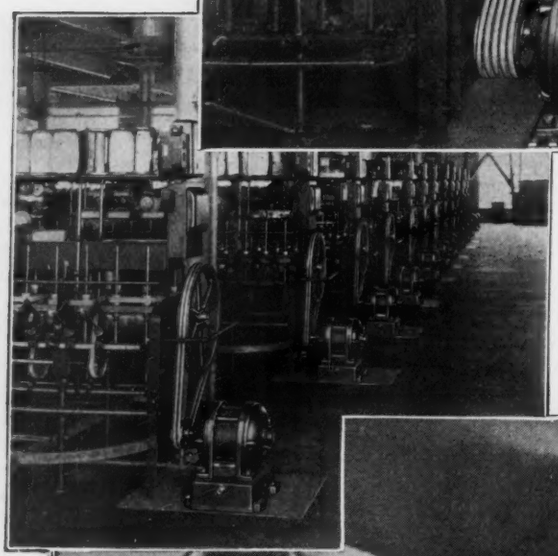
200-358

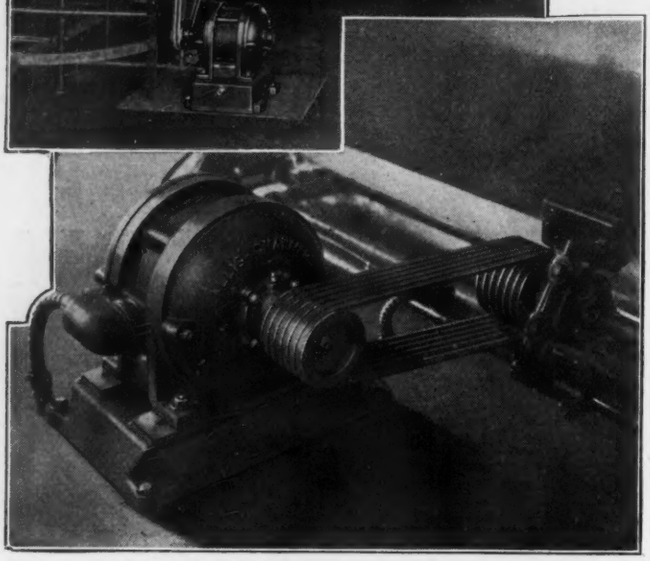
ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES



Allis-Chalmers Motors and Texrope Drives in a Southern Textile Mill





Sturdy Steel-Frame Allis-Chalmers Motors

Allis-Chalmers has kept abreast with the newest requirements in the application of electric motors to textile machinery.

Windings protected against moisture by special insulating varnishes, bearings sealed against the entrance of dirt or escape of lubricant, frames of electric steel castings, indestructible rotor, insure long life with minimum upkeep.

The exclusive combination of Allis-Chalmers motors and texrope drives is unequalled for smooth continuous operation of textile equipment.

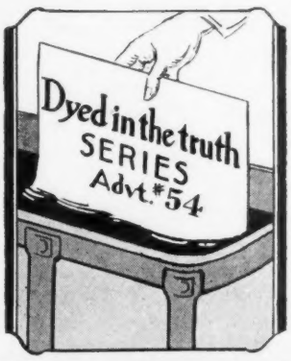
ALLIS-CHALMERS

Allis-Chalmers Manufacturing Company, Milwaukee

Proved...*in South America*

Monel Metal Equipment

...Speeds up color changes in hosiery dyeing



CASA ESTABLECIDA 1903

N. MUÑOZ SAUCA & SALZMANN

FABRICANTES DE MEDIAS CIRCULARES Y RECTILINEAS

SAN. ANTONIO 725-765 GONÇALVES DIAZ 730-750

U.T. 21-BARRACAS 3641-42 CABLES "SAUCA" BUENOSAIRES

BUENOS AIRES January 22 - 1930

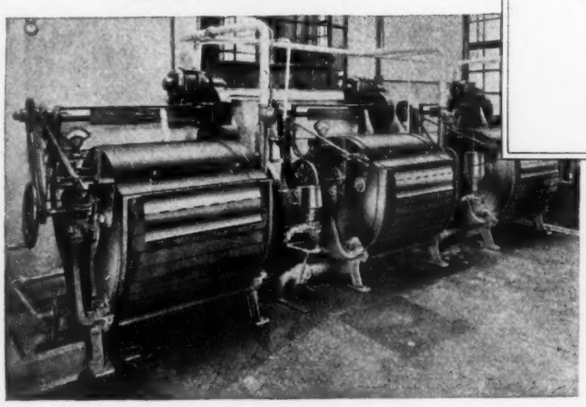
The American Laundry Machinery Co.
Cincinnati,
Ohio.

Gentlemen:

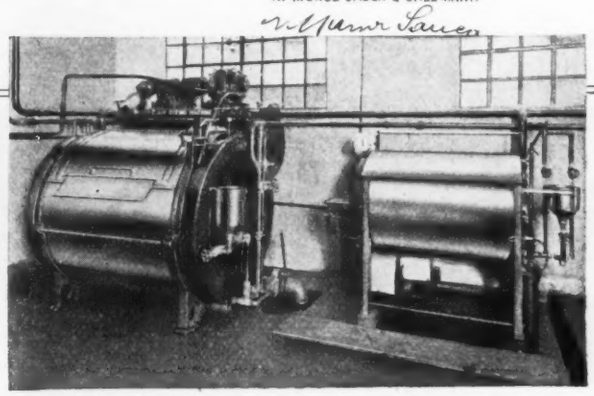
We debated quite a long time before we could make up our minds to purchase a Monel Metal Dyeing Machine, because of the first cost. Finally we decided to purchase and we can truthfully say that we certainly are glad that we decided upon Monel Metal equipment, because it has meant so much to us in enabling us to dye all of the present shades of color in the same machines.

The installation of our first American Monel Metal Dyeing Machine was so satisfactory that we have since purchased additional machines among which was your latest Super and Sample Lot type machines. At the present time we are dyeing our hosiery in more shades of color than at any previous time in the history of our company. Monel Metal equipment has enabled us to handle the increased color demand with a great saving in labor, floor space and with less trouble, because we do not have to spend so much time in boiling out the color between dyeings, such as was formerly required with our former wooden dyeing machines.

Yours truly
N. MUÑOZ SAUCA & SALZMANN



Three of The "American" Monel Metal Rotary Hosiery Dyeing Machines at plant of N. Munoz Sauca & Salzmann, Buenos Aires, Argentina. Manufactured by THE AMERICAN LAUNDRY MACHINERY CO., SPECIALTY DEP'T, *Cincinnati, Ohio.*



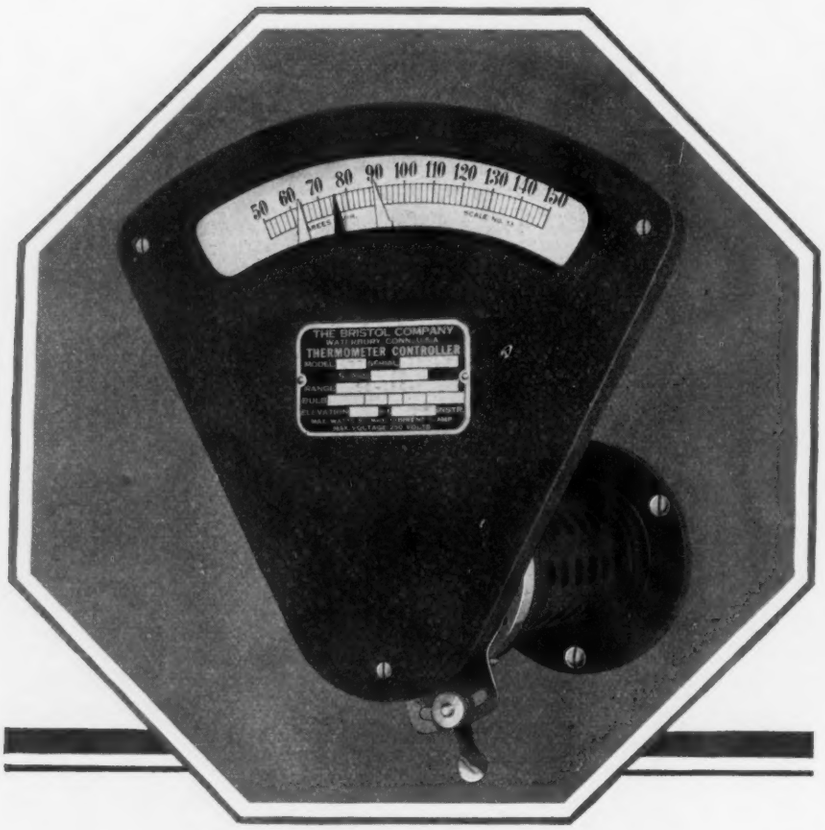
Monel Metal Super Dyeing Machine and Sample Lot dyeing machine at plant of N. Munoz Sauca & Salzmann. Made by The American Laundry Machinery Co., Cincinnati, Ohio.

MONEL METAL

Monel Metal is a registered trade mark applied to a technically controlled nickel-copper alloy of high nickel content. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

INCO MONEL METAL



Continuity...

In Slasher Results

THERE is such a thing . . . as mill men equipped with Bristol's Slasher Temperature Controller will tell you.

This useful instrument maintains a constant temperature in the size box . . . the critical point in the slashing process. Warps passing through receive at all times a uniform coating, correct as to consistency and spread.

Everyone is happier all along the line. In the weave room the advantages are at once apparent . . . in smoother running warps . . . less shedding . . .increased production. The finished goods are obviously better.

Do not delay the positive advantages of automatic control in your slasher room. Let Bristol's Controller take over the job now. Write today for full particulars.

To aid in checking over control possibilities in your plant, Bristol's Field Engineering Service will gladly be placed at your disposal—without obligation.

The BRISTOL COMPANY, Waterbury, Conn.

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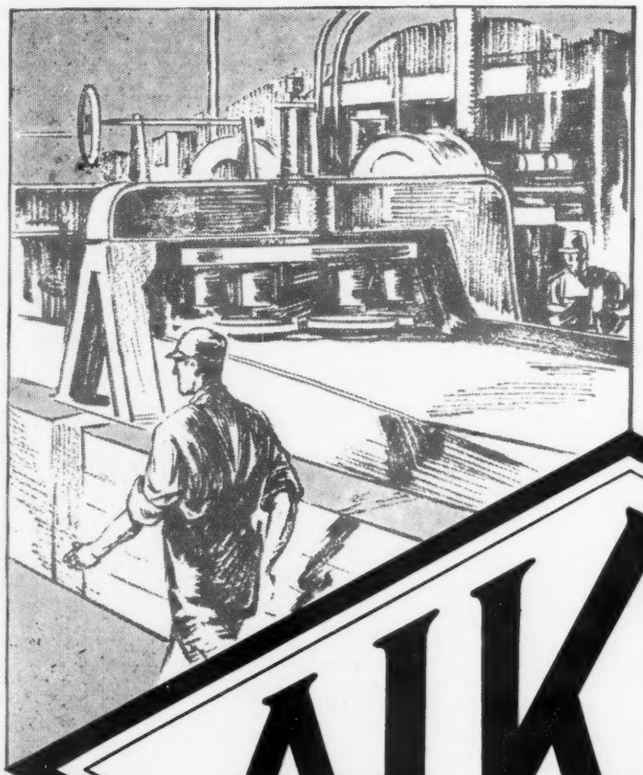
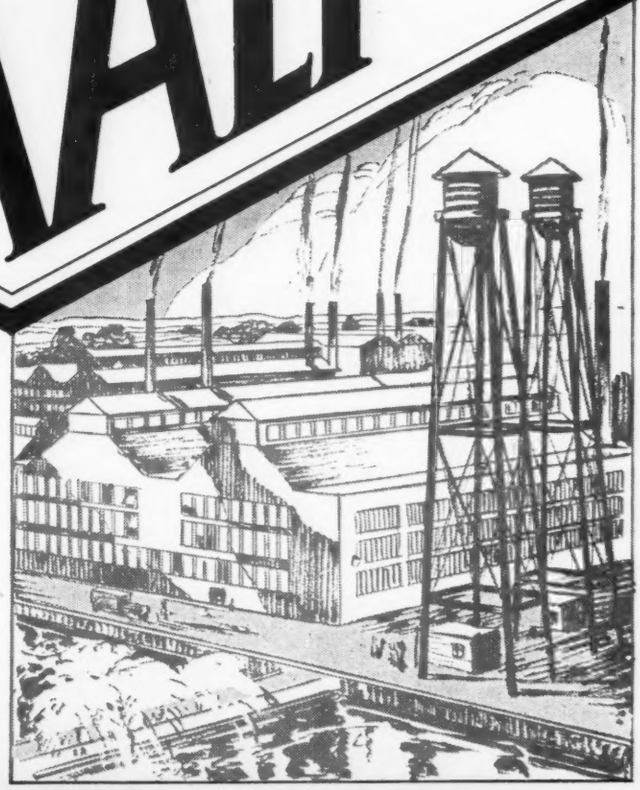
SINCE 1889

Instruments *for* Indicating Recording Controlling



We are PROUD of THIS MARK

ALKALI



MANY years of unremitting manufacturing vigilance have built up the national reputation and the national consumer acceptance which Diamond Brand Alkalies enjoy today—the Diamond trademark has become symbolic of quality among users everywhere.

Naturally we are ever zealous in maintaining this high regard—a confidence which we consider priceless and which daily finds expression in the very highest quality alkalies that a great, modern plant can produce.

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CHESTNUT and 39th STREET
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Rooms with private bath and shower from $3.00 per day

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Headquarters for the Knitting Arts Exhibition

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Let us help you solve your problems in cotton chemistry

Our Research Department will give you practical recommendations of proved value. No charge for our advice, nor for samples of Kali products we shall send you for any bleaching purpose.
We especially recommend our

Hydroxy Soluble Oil—(Sulphonated Castor)
50 and 75 per cent.

Kalpinol (Sulphonated Pine Oil)
A high-grade solvent and emulsifier. Does not affect the colors or harm the goods. Will give entire satisfaction.

Hydroxy Penetrating Oil
To produce instant penetration in the dyeing of raw stock, warps, skeins and piece goods. Use it for wetting out quickly, mercerizing and in the kier.

Throwing Oils
Of all types for any desired result.

Kali Chlorine Neutralizer
A super anti-chlor—Prevents tender bleached goods.

Hydroxy Art Silk Coning Oil
For coning, winding and knitting art silk.

Hydroxy Art Silk Boil Off Oil
For scouring oils out of art silk.

Hydroxy Three Fibre Boil Off Oil
Degumming and boiling oils out of fabrics.
Made of Pure Silk, Art Silk, Cotton and Wool mixes.

Hydroxy Boil Off Oils
For degumming silk or boiling off and dyeing in one operation.

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Formaldehyde Acetic Acid Ammonia
All Oils—Softeners—Gums—Soluble Oils and Chemicals for All Industries

The KALI Mfg. Co.
Manufacturing Chemists
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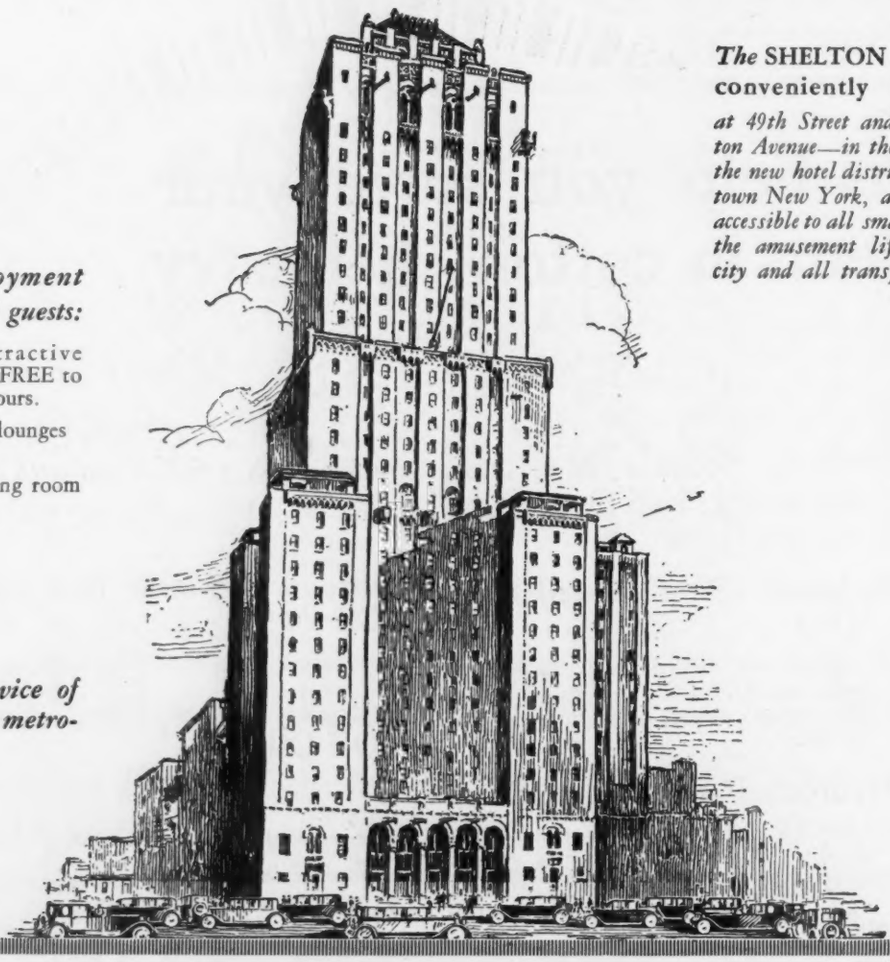

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and every service of a first class metropolitan hotel.

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New York's hotel rendezvous —*for* COTTON MEN *and* their families

A UNIQUE, club-like atmosphere most unusual to find in a metropolitan hotel. Where visitors to the city may enjoy themselves as much as though they were guests of a large private club.

Yet in spite of its many extra attractions the room charges are no higher than you have to pay in other high class hotels where the most you can expect is the ordinary "room and bath."

$3 to $6 a day for one; $6 to $9 a day for two

PLEASE MAKE RESERVATIONS IN ADVANCE if possible so that we will be sure to have the accommodations you want when you arrive.
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The chlorantines offer a complete range of shades in sunfast cotton dyes . . . many fast to washing . . . and many good union dyes.

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May we have the opportunity of demonstrating that we can give higher quality and better service at a saving in price?

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Yours very truly,

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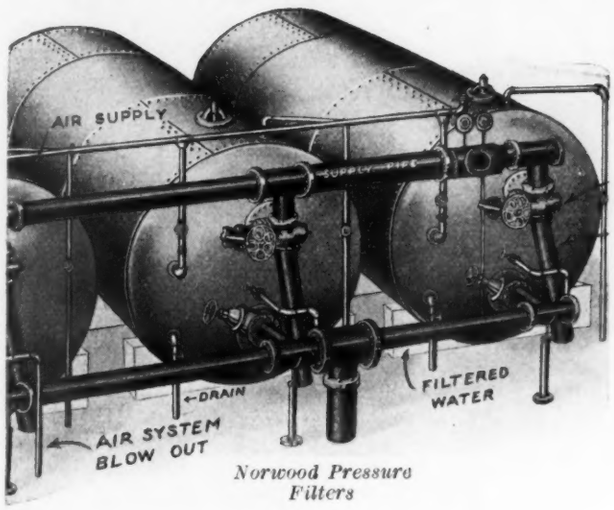
By J. F. Jacobs, Jr.



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Join the hundreds of Mill owners all over the country who "swear by" DIASTAFOR — the perfect sizing and de-sizing agent.

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¶One of the largest and most successful mills in the country now uses **HAMACO** in all of its warp sizing work.

¶They didn't intend to use **HAMACO.**

¶They were wedded to another product, something that they had thought was the best thing in the world. Their stock and supply of this other product ran out.

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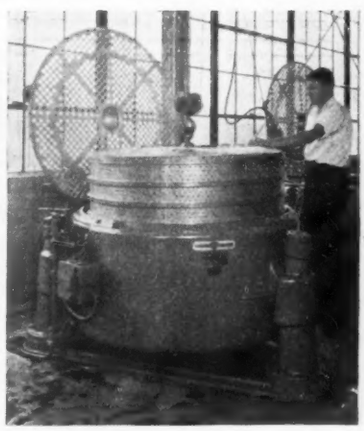

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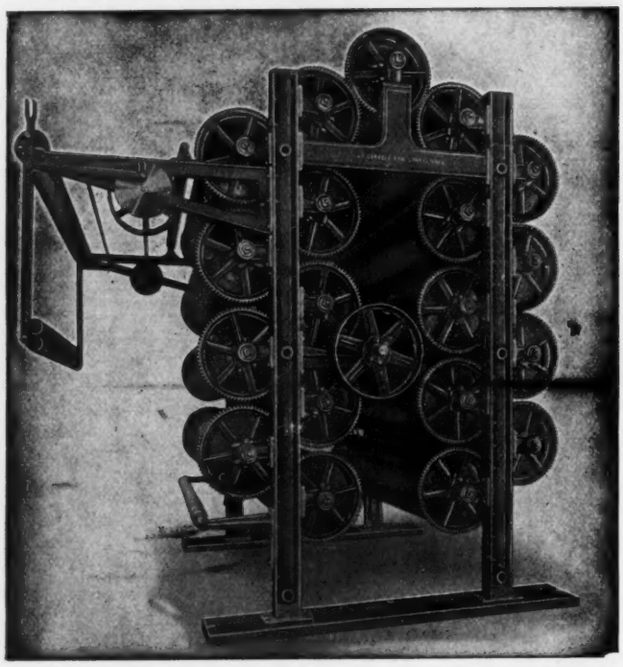

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Contains less than .05 of 1% free fatty acid.
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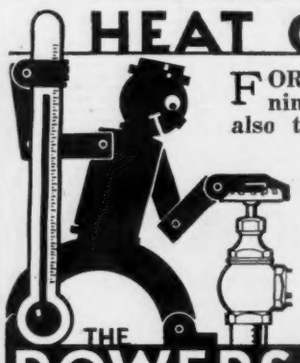

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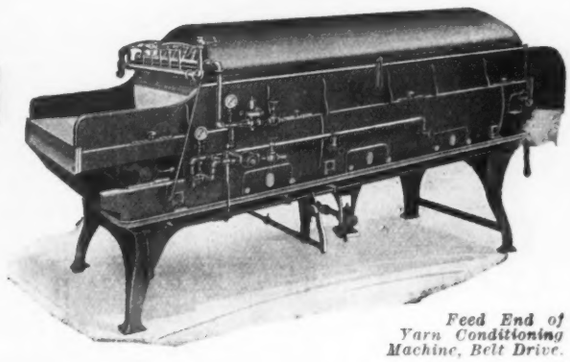
SARGENT YARN CONDITIONING MACHINES

are rated so highly



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It boils thin—it penetrates the warp—increases breaking strength and carries the weight into the cloth. Being thoroughly washed free of gluten and other foreign matter it gives a bleach and finish to the goods that you can get from no other starch.

A trial order will convince you that VICTOR STARCH has no equal on the market.

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Good carding means good spinning.

Good spinning means good yarn and cloth.

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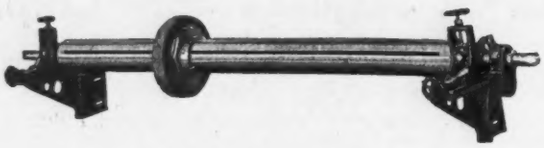

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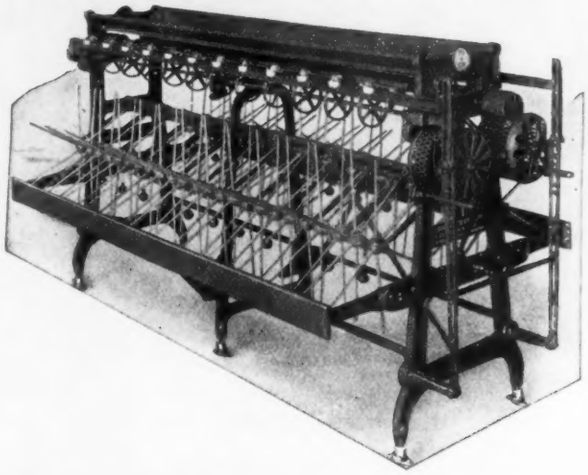

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A life time of Textile Experience is back of these McLeod Products . . . Every one is designed with a thorough knowledge of mill problems, and with the purpose of mill economy . . .

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McLEOD WOOD TOP ROLLS for Spinning frames—*no cockled yarn—No Floating fibres, No waste,* Increased *breaking strength.*

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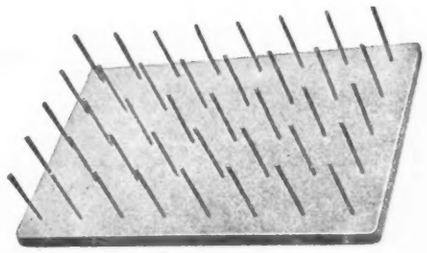
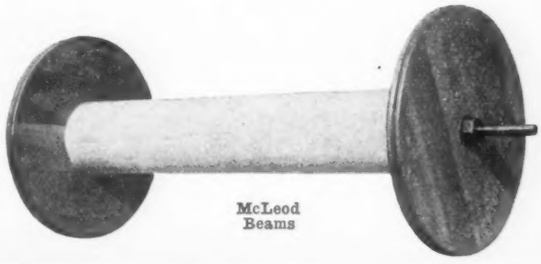


McLeod Pin Boards



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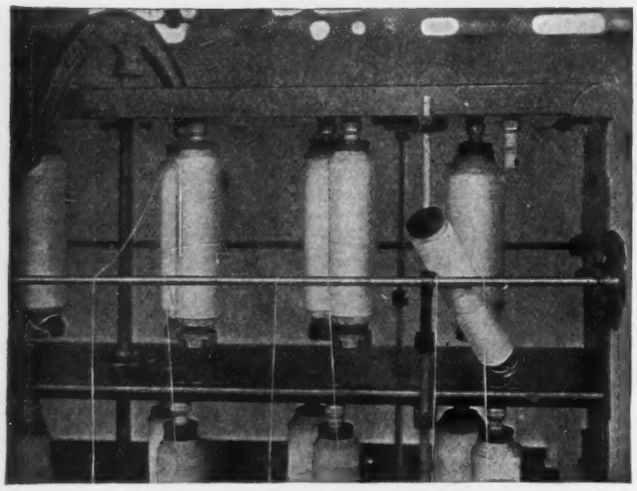

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"Up-to-the-minute" mills are installing K-A Electricals.

No continuously moving parts:

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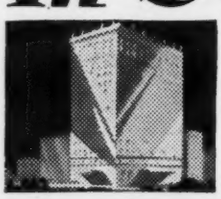

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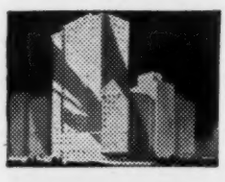

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Exclusive Features

Are you taking advantage of the four outstanding and enviable features exclusive with the Centrif-Air Adjustable Cotton Cleaning System?

Progressive cotton mills everywhere are profiting by these patented features: The Vertical Adjustable Separator. The Corrugated Brass Beaters. The Vibrating Top Comb Shaft. The Dust Suction Hood.

Write for detail-information.

THE CENTRIF-AIR MACHINE CO., Inc.

Atlanta,
Georgia

Ask the Mills Now Using It

THE CENTRIF-AIR
ADJUSTABLE COTTON CLEANING SYSTEM

The
Extra-wear Spinning Ring

DIAMOND FINISH

Have Half-used Rings Refinished

When one side of a double flange ring has been used for several years, the idle under side becomes somewhat rusted and rough. Before you attempt to turn the ring over and use the other side, it should be refinished. We do this for a reasonable cost, and it contributes so much to easy starting that it is really a great economy. Write us, sending sample of your rings and stating quantity and we will quote prices on refinishing the unused flange.

Free samples upon request

Whitinsville (Mass.) SPINNING RING CO.

Devoted to making "DIAMOND FINISH" Spinning and Twister Rings since

1873

PROVED PERFECT *in* PRACTICE

It is false economy to fit cheap machinery clothing. Kenyon's Machinery Clothing has PROVED its dependability, and Kenyon's reputation ensures the same consistently high quality being maintained —always.

Roller Cloths

COTTON BLANKETS
LAPPINGS
PALMER MACHINE BELTS
FOR CALICO PRINTERS, &C.
CLEARER CLOTHS
SIZING FLANNELS
ROLLER CLOTHS FOR COTTON SPINNERS AND MANUFACTURERS

U. S. AGENTS

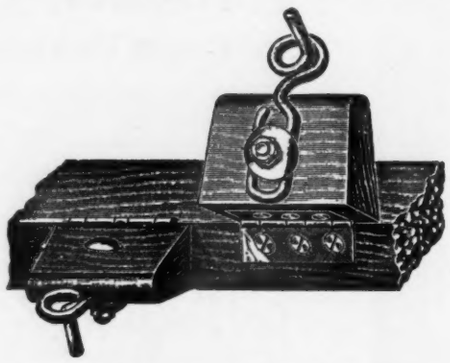
HURLEY JOHNSON Corp.
25 WALKER ST., NEW YORK

KENYONS MACHINERY CLOTHING

Manufactured by:—

JAMES KENYON & SON, LTD.
Derby Street Mills, Bury, Lancs., England
Established 1714

The Palmer Adjustable Thread Guide



For Ring Spinning and Twisting Frames

Easily Adjusted.

Extreme Accuracy and Performance of setting.

Cheapest of them all.

Mail guide-block for free sample.

Patented and Manufactured by

THE I. E. PALMER COMPANY
Middletown, - - - - Connecticut

REG. U. S. PAT. OFF.

ROLLER CALF

R. NEUMANN & CO.
Hoboken, N. J.
Direct Factory Representatives in the South
SOUTHERN TEXTILE SPECIALTY CO., GREENVILLE, S. C.

SHEEP SKIN
GILLEATHER *for* **TOP ROLLS**

It means MORE PROFIT because BETTER YARN, FEWER ENDS DOWN, FASTER PRODUCTION. *Smooth, resilient, tough, strong.*

SALES REPRESENTATIVES:
Ralph Gossett, Greenville, S. C. — Hamner & Kirby, Gastonia, N. C. — Belton C. Plowden, Griffin, Ga.

GILL LEATHER CO. SALEM, MASS

PIONEER BRAND
PEARL RIVER VALLEY LUMBER CO.

PIONEER BRAND

QUALITY PICKER STICKS

To Be Manufactured by Country's Largest Producer of Southern Hardwoods

The Pearl River Valley Lumber Company, Canton, Mississippi, announces the purchase of the picker stick business of the Pioneer Pole & Shaft Company, Memphis, Tennessee. The new owners assure the same quality and manufacture attained in the past and ask the continued patronage of the textile trade.

"PIONEER" picker sticks have long been famous for endurance qualities. The Pearl River Valley Lumber Company owns, and operates in, hardwood timber tracts sufficient for 20 years continuous production. HICKORY for picker stick manufacture is cut from their own timber. Users of "PIONEER" sticks are assured long-time, continuous supplies of uniform quality.

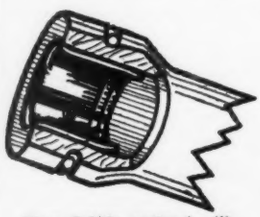
"PIONEER" former production department has been maintained intact. Picker stick orders will be manufactured by the same staff as formerly.

Quality picker sticks are cheapest in the long run. If you are not already using "PIONEER" sticks your inquiries and orders are sincerely solicited.

PEARL RIVER VALLEY LUMBER COMPANY

Hickory Products Division

CANTON, MISSISSIPPI



Warp Bobbin equipped with metal bushing.

Keeping Bobbins Same Height on Spindles

Textile Shield Company metal bushings protect all kinds of bobbins from shrinkage, keeping them the same height on the spindles. Let us prove this to you.

TEXTILE SHIELD CO.

Metal Stampings — The Shield of Protection — *Screw Machine Products*

GROTON ST. Lawrence, Mass.

J. Norman Anderson, Proprietor

A Right Size for Every Mill

There are eight different models in the FINNELL line ranging in price from $75 to $875. Large open areas might need the largest. Small congested spaces might need the smallest. The average mill might need one in between. Let us survey your floors and help you select the one that will do the best work for you at lowest cost. For particulars address FINNELL SYSTEM, INC., 1311 East St., Elkhart, Ind.

FINNELL

ELECTRIC FLOOR MACHINE

PERFORMANCE

shows the value of this New

Warp-Saving Finish

"We ran 500 sets night and day for two years . . . an exceptionally good record," reports William Hill of NASHUA MFG. CO.

PERFORMANCE

MILL: Nashua Mills, Nashua Mfg. Co.
LOOMS: Automatic, Wide, 82" and 92"
HARNESS: Emmons "Chafeless Cord"; 4 Harness Weave; 500 sets
TIME: Two Years, Continuous Night and Day Operation

SUMMARY

"We ran 500 sets night and day for two full years," reports Mr. Hill, "and did not lose a single set—an exceptionally good record. There were practically no repairs. During this period, the smoothness of this harness and its freedom from chafing of the warp has been an important factor in continuous production."

Examination of these 500 sets show them to be in splendid condition, with no appreciable wear of the eyes, and *no perceptible wear of the finish.* This record is indicative of the performance of "Chafeless Cord" throughout Nashua Mills.

The special warp-saving finish notably reduces warp breaks wherever "Chafeless Cord" is used. This harness eliminates complaints of weavers by reducing loom stops from clean breaks as much as 54% in some mills. Fewer warp breaks mean continuous loom operation and greater production. "Chafeless Cord" is a notable development in cotton harness.

To produce this finish, a special process is required. Five coats of highly refined varnish are applied. A precision machine applies each coat to an absolutely even depth. Old hand methods cannot equal the accuracy of this machine. It gives a smoothness impossible by less modern methods.

This smoothness is baked in. Each coat is baked eight (8) hours at 175 degrees temperature. In this way, "Chafeless Cord" is made to a new standard of smoothness. Chafing of the warp is practically eliminated. The ends are kept soft and full; loom stoppage is signally diminished.

Furthermore, *wearing of the eyes is delayed indefinitely.* A humidity-proof overdressing with the special warp-saving finish protects the harness and yarn at one and the same time. Performance at Nashua Mills is indicative of the value of "Chafeless Cord."

It is the new super-smooth harness, known wherever you see it by the tri-color marking—red *and green* on yellow.

SUPER-SMOOTH *Chafeless Cord*

FEWER WARP BREAKS . . . . GREATER PRODUCTION PER LOOM

EMMONS *Loom Harness Co.*

143 May Street Lawrence, Mass.

"Established 1848"

Gentlemen:
When in readiness for an additional equipment of BOBBINS, SPOOLS, SHUTTLES, and kindred MILL SUPPLIES, we should be glad to figure with you.
Our bobbin and spool work is made from time-seasoned PENNA. ROCK MAPLE, and our shuttles from the best selected dogwood and persimmon.
We are long-time manufacturers of this class of work of a quality all its own, and can give the best of satisfaction.
Soliciting your specifications or samples for estimate.

Yours truly,

"Buy from the Manufacturer Direct"

JAS. H. BILLINGTON CO.

113 Chestnut St., Philadelphia, Pa.

R-S Sanitary Fountains

Get a clear—fresh—healthful drink every time from the Rundle-Spence Vertico-Slant Fountain.

The slight slant stream prevents water from falling back upon the jet. Lips cannot touch the R-S nozzle.

Sanitary Drinking Fountains, Bath and Plumbing Fixtures and Supplies are included in the R-S line now available in color.

RUNDLE-SPENCE MFG. CO.
52—Fourth St., Milwaukee, Wis.

The **FOUR-IN-ONE** *Pay Envelope*
PATENTED

What is it? First of all, it's a pay envelope. Secondly, it's a time and wage statement. Then, too, it serves as a deduction statement. Finally, it's an employee receipt.

All these in one? Yes, sir—all four in one! Expensive? Not at all. We believe you'll be agreeably surprised at the cost. And you can bank on this: The Four-in-One Pay Envelope will save you innumerable pay day complaints.

Does it call for an entirely new payroll system? Nothing of the sort . . . But why not investigate, without obligation?

Request samples and they'll come to you by return mail.

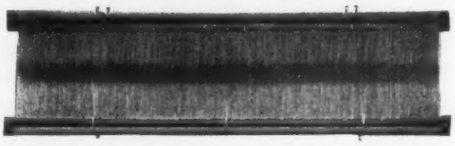
ATLANTA ENVELOPE CO.

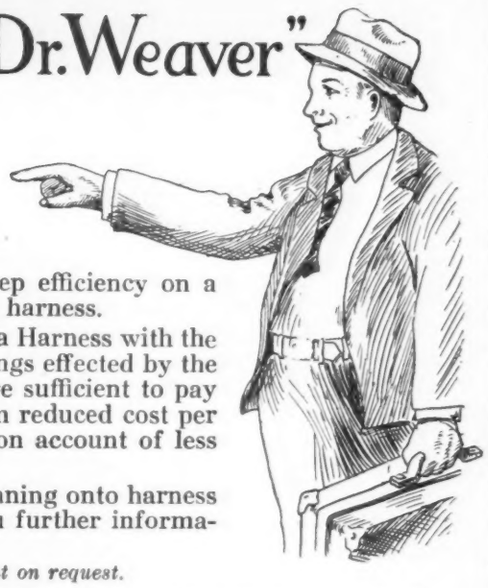
Established 1893

505-11 STEWART AVE., S.W. ATLANTA, GA.

THE NEW ATLANTA HARNESS WALL SHAFT

A word of advice from "Dr. Weaver"





"Take it from me," said Dr. Weaver, "the best way to keep efficiency on a healthy plane in the weave room is not to neglect your loom harness.

"The method to follow for the best results is to specify Atlanta Harness with the New Wall Shaft. In a large mill (name on request) the savings effected by the use of Wall Shaft Harness during eighteen months' use were sufficient to pay the original cost of the harness. These savings resulted from reduced cost per cut in weaving, reduced seconds and increased production on account of less breaking of warp thread.

"Moisture collecting on the screw eyes and running onto harness is also eliminated." Let 'Dr. Weaver' give you further information on Atlanta Harness with Wall Shaft.

Sample of New Wall Shaft Harness gladly sent on request.

ATLANTA HARNESS & REED MFG. CO.

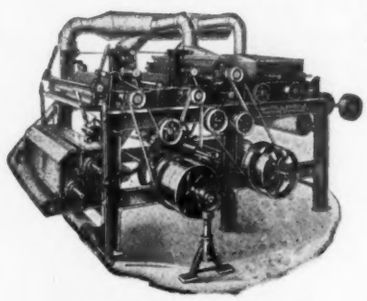
P. O. BOX 1375 TEL. MAIN 0517-8 ATLANTA, GA.

Satisfactory Service Since 1919

COTTON HARNESS, MAIL HARNESS, SELVAGE HARNESS, SPECIAL TWIST CABLE HARNESS, REEDS FOR ALL FABRICS, SLASHER COMBS, STRIKING COMBS, MENDING EYES

Type C Shearing Machine

Eliminates All Hand Trimming



THREE BLADE SHEAR
with three brushes for each side

of threads on the face, back and selvages of goods. Reduces the number of burlers and improves the quality of the goods.

Can be used with a brushing machine or equipped with any number or combination of cleaning rolls to suit the goods.

When used with Unrolling Frame with Sewing Machine attached and scray large production can be secured at low cost of upkeep.
Built in all common widths.

Write today for complete information.

Cloth Room and Packaging Machinery

CURTIS & MARBLE MACHINE CO.

72 Cambridge St.
WORCESTER, MASS.

Southern Office **GREENVILLE, S. C.**

"Where Southern Hospitality Flowers"

"and that, frankly, amazed me . . . . "

"A genteel atmosphere; courteous, unobtrusive service; quiet, unassuming luxury, and most delicious food—I expected all these at the Biltmore, and really, my expectations were surpassed. But . . . the bill . . . that, frankly, amazed me. I had always thought of the Biltmore as a high-priced hotel. Imagine my pleasant surprise to discover that its rates were no higher than any other first-class hotel . . . and actually much lower than many!"

BILTMORE RATES

Single	**$4, $5, $6**
30 Rooms	**$3.50**
Double	**$6, $8, $10.00**

The Biltmore is away from noise and hustle—yet, near enough to be convenient, only seven minutes from center of town. Convenient, too, for golf and golfing privileges on the finest courses are granted to our guests. There are 600 outside rooms (each with private bath and circulating ice water) at the Biltmore Hotel . . . you'll enjoy a stopover here.

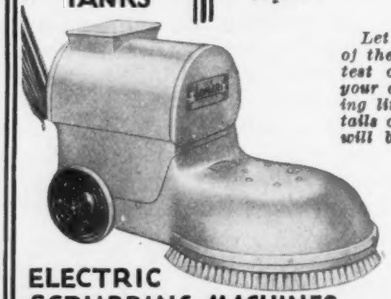
ATLANTA BILTMORE

"The South's Supreme Hotel"

LAWLOR
FLOOR CLEANING EQUIPMENT

WRINGERS

MOPPING TANKS



ELECTRIC SCRUBBING MACHINES

For more than 32 years, the Lawlor Line has been accepted as representing the best in floor cleaning equipment. Textile Mills especially have found that Lawlor methods meet their most exacting requirements and have established some remarkable records for low cost floor maintenance.

Lawlor All-Steel Perforated Roll Wringers are built in single and twin pail types.

Lawlor Compartment Mopping Tanks are made in capacities of from 15 to 65 gallons in a variety of models and styles.

THE LAWLOR ELECTRIC MACHINE Scrubs—Waxes—and Polishes. It is of the most advanced design and guaranteed construction and built in various sizes to meet most efficiently every floor maintenance problem.

Let us prove the real merit of the Lawlor Method by actual test on your floors and under your own supervision. Interesting literature with complete details of this "Service Test" plan will be sent on request.

S. C. Lawlor Co.
127 N. Curtis St.
Chicago, Ill.

SOLD AND SERVICED BY LEADING DEALERS

TOLEDO
WEIGHT CONTROL

in the Textile Industry

Toledo Weight Control is the weighing authority in the textile industry. One of the many Toledo Scales is shown above. It weighs the cloth coming from the looms where accuracy and speed are essential. It can be used on a bench or on a stand for portability.

Toledo Scale Company, Toledo, Ohio. Canadian Toledo Scale Company, Ltd., Windsor, Ontario. Sales and Service Offices in 181 principal cities in the United States and Canada.

TOLEDO SCALES

NO SPRINGS . . HONEST WEIGHT

BUILT TO LAST A LIFETIME

Model 1074

Colson Trucks

Notice the all-steel, angle-iron frame, sturdy cross slats and heavy-pipe push handles. Also the rubber-tired, ball-bearing wheels. Rugged and fast, like all Colson Trucks, Model 1074 is just another example of the fact that there is a type and size in the complete Colson line to suit every kind of service. And every Colson Truck has those exclusive features which guarantee smooth operation and enduring service.

May we send you the new Colson Truck Catalog?

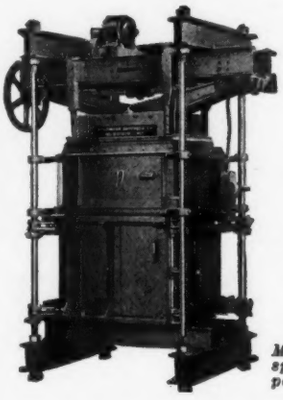
THE COLSON CO., Elyria, Ohio

Branches in Principal Cities

LOGEMANN

Hand-Belt-Electric-Hydraulic

Baling — Presses



For Waste—

Hand operated Balers—
Deep-box power Balers—
Hydraulic Balers—

For Finished Goods—

Hand operated Balers—
Power toggle-lever Balers—
Hydraulic high-density Balers—

For Yarns—

High-density power Balers—

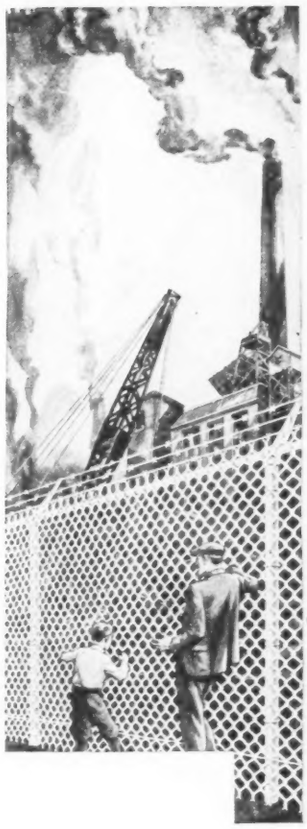
Model 26-MS. Power Baler specially designed for export yarn baling.

There is a LOGEMANN baler for every purpose.

Write for details specifying your needs.

LOGEMANN BROTHERS CO.

3102 Burleigh St., Milwaukee, Wis.



STOP COSTLY DAMAGE SUITS

A steam shovel--a moving crane--or any other yard operation excites the curiosity of the passerby. "Keep Out" and danger signs will not thwart his impulse to investigate. And YOU are responsible for his welfare should he suffer injury. Why pay the bills for such negligence?

You can keep these trespassers off your property with an Anchor Fence. A small part of a damage suit will more than pay for the extra cost of an Anchor Fence installation.

Have the local Anchor representative submit a plan and cost estimate.

Anchor Post Fence Company
Eastern Avenue and Kane Street
Baltimore, Maryland

Albany, Boston, Buffalo, Charlotte, Chicago, Cleveland, Detroit, Cincinnati, Hartford, Houston, Indianapolis, Los Angeles, Mineola, L.I., Newark, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Shreveport, La.

Sales Agents in other principal cities
Consult your phone directory

ANCHOR FENCES

MADE BY THE MAKERS OF AMERICA'S FIRST CHAIN LINK FENCE

THE same 3-million dollar equipment that produces Clow-National high-pressure cast iron pipe is used in making Clow-National building columns. It would be an impossibility to produce columns of such strength and uniformity in an ordinary foundry. Builders of cotton mills get the benefit. Use Clow-National Columns in your mill for maximum floor space, firesafety and strength.

Have you your copy of Clow-National Column Manual? It shows complete line of columns, bases, caps, brackets, pintles and column fittings. Free on request.

James B. Clow & Sons, Chicago, Illinois — National Cast Iron Pipe Company, Birmingham, Alabama

CLOW-NATIONAL CAST IRON PIPE

"Everything for a Pipe System"

Lockwood Greene Engineers, Inc.

Mechanical - Electrical
Structural Engineers

Plans, Specifications, Supervision of Construction, Machinery Lay-outs, Location Studies, Manufacturing Reports, Appraisals, for Industrial Plants

NEW YORK BOSTON CHICAGO
CLEVELAND SPARTANBURG

PYOTT VEE-TEX DRIVES

The accuracy of Pyott Vee-Tex Drives results in an unparalleled wedging grip of the V-belts on the sheaves.

The velvety action of Vee-Tex Drives gives a smooth, silent, unchanging flow of power free from shock or vibration.

Write for Detailed Information

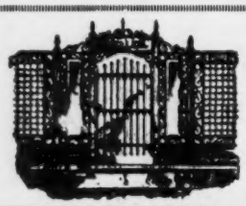
Pyott Foundry and Machine Co.
328 N. Sangamon St. Chicago, Ill.

Prevent Glare and Heat by Coating your Windows with

SKYCO NoGlare

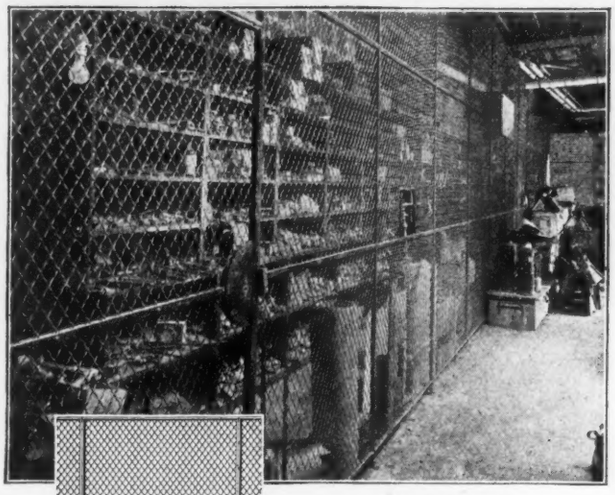
Write for free sample.

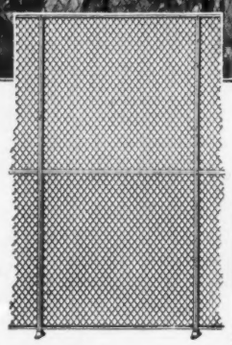
THE SKYBRYTE COMPANY
1919 East 19th St. Cleveland, Ohio



WIRE RAILINGS
WINDOW GUARDS
WIRE CLOTH
Established 1835
DUFUR & CO.
800 West Franklin St. Baltimore, Md.

CYCLONE SECTIONAL PARTITIONS





Each Section is removable and interchangeable.

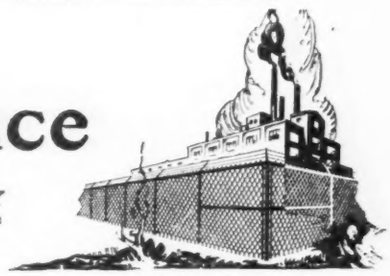
© C. F. Co., 1930

Easy to Install — Economical — Practical

Cyclone Sectional Partitions are ideal for separating departments, enclosing storage space, stockrooms, enclosing dangerous machinery, etc.

These woven wire sectional partitions are easily erected on wood or concrete floors. All sections punched alike for bolts. Quick changes easily made. No refitting, no loss. Every section fits all others. Painted black. Equipped with swinging or sliding gates.

We also make woven wire window guards, rubbish baskets, and chain link fence for industrial property of all kinds. Write for information.



Cyclone Chain Link Fence.

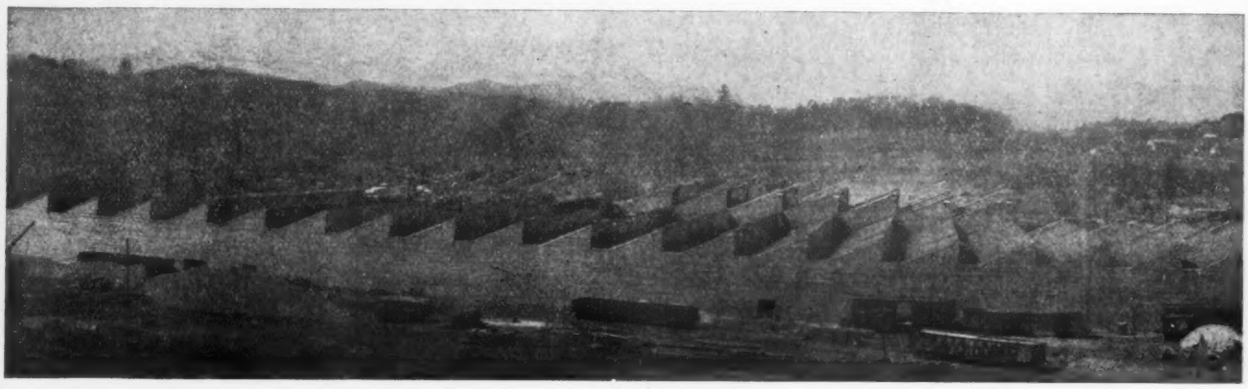
CYCLONE FENCE COMPANY

All Chain Link fence is not Cyclone. This nameplate identifies the genuine Cyclone Fence.

Cyclone Fence

REG. U.S. PAT. OFF.

CYCLONE FENCE COMPANY
Subsidiary of United States Steel Corporation
General Offices: WAUKEGAN, ILL.
Branch Offices in All Principal Cities
Pacific Coast Division
STANDARD FENCE CO., Oakland, Calif.



This shows only a small part of one Mundet roof insulation job—75 acres of textile mill roofing—and not one drop of ceiling condensation.

Mundet "Jointite" Cork Board does not warp, crack, rot, or crumble. It is waterproof and fire resisting. Cotton, wool, rayon, and silk mills all over the United States are insulated with it.

Mundet Jointite Cork Board

Our roofing engineers will gladly help you with any roofing problem. Our Contract Department will do the work complete. No job is too large or too small for us.

L. MUNDET & SON, Inc.,

461 Eighth Ave., **Established 1865** **New York City**

Also Manufacturers of Mundet "Jointite" Pure Cork Sectional Pipe Covering and Moulded Fitting Covers

H.M.McCORD

Used Machinery
V New Machinery

A mill may be equipped with more than one type of preparatory, spinning, or weaving machinery. It has been found desirable that there should be uniformity for efficient and cost reducing operation.

It is not possible financially to discard the entire existing equipment for new, but it is possible to replace various units, complete or otherwise, that will round out the plant on a uniform basis, by the judicious purchase of good used machinery.

The wide experience and intimate knowledge of the machinery market enables us to buy and sell for you to your advantage in replacements of this nature.

Mill Properties . . . Sites . . . Relocation
Appraisals . . . Liquidations
Machinery and Equipment

Correspondence is invited, and consultations held by appointment.

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100 East 42nd Street
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161 Devonshire St.
Liberty 5948

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FOUNDRY MACHINE SHOP

LOMBARD
IRON WORKS & SUPPLY CO.
AUGUSTA, GA.

All Kinds Machinery Repaired.

BOILER WORKS MILL SUPPLIES

KERLOW INSTALLATIONS

Cliffside Mills
Cannon Mfg. Co.
Johnson Rayon Mills
N. C. Finishing
Proximity Mfg. Co.
Lancaster Mills
United Merchants Finishing Plant

KERLOW STEEL FLOORING COMPANY
218-222 Culver Avenue Jersey City, N. J.

AN UP-TO-DATE PRINTING PLANT

equipped with modern machinery and a staff of competent workmen, solicits, thru this publication, a trial order on your printing needs.

We have built a reputation that is known over the entire South by our special attention to the minutest detail.

We are more than ready to answer any question that relates to your printing problems.

Write us and let us quote you on anything from a postal card to a full bound book.

The A. J. Showalter Co.
PRINTERS AND PUBLISHERS
DALTON GEORGIA

Classified Advertising

RATES—DISPLAYED

"For Sale," Positions Open, Agents Wanted and all other advertisements using bold face type or otherwise displayed, $6.00 per column inch per insertion.

Rates for larger spaces furnished on application.

WITHOUT DISPLAY

"Positions Wanted" advertisements, 5 cents per word per insertion. Minimum charge $1.00. Payable in advance.

(When replies are to be received in our care allow eight words for box address.)

POSITION WANTED

Rayon Yarns. Young executive on production and selling of converted and processed rayon yarns; thoroughly familiar with all types of processing for weaving and knitting; knows how to manage help, buy, sell and organize; now employed; wishes position with yarn processor or textile mill. Address Box 64, care COTTON, Grant Bldg., Atlanta, Ga.

DO YOU WANT TO SELL IT?

Probably you, like many other mills, have some equipment which you have taken out or are thinking of taking out and replacing with new equipment. Why not dispose of this second-hand machinery at a profit? COTTON is read by thousands of cotton mills that are hardly touched by Northern journals.

You Can Sell Your Second-Hand Equipment

to these mills through advertising in the Classified Advertising Section of COTTON. Such advertising produces results at mall cost—why not try it out and get that second-hand equipment off your hands in a profitable way? Tell us what you have for sale and let us insert an advertisement.

COTTON, Grant Bldg., ATLANTA, GA.

Best For Bale Ties

Leading Textile Mills are using SIGNODE Bale Ties because they are clean (rust-proofed) cold rolled steel—strong and dependable—Because SIGNODE Tools tighten and seal the Bale Ties quickly and safely—Because a SIGNODE Unit saves money, saves volume, and prevents damage and pilfering.

SIGNODE STEEL STRAPPING CO.
2621 N. Western Ave., Chicago, Ill., U. S. A.
Canadian Steel Strapping Co., Ltd., Montreal, Quebec
Offices in Principal Cities

It Defies Vibration

Says the superintendent of a prominent New England mill:
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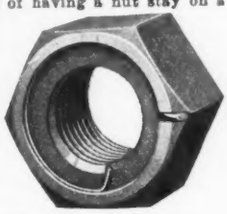

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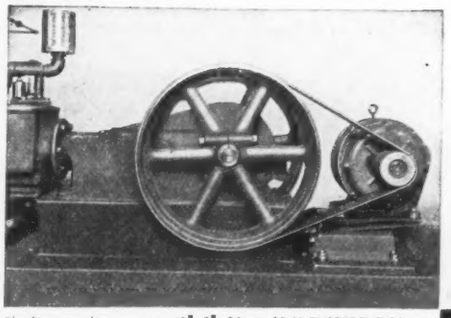

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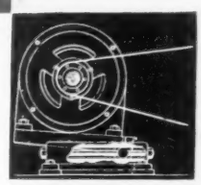

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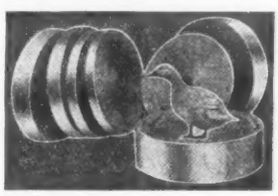

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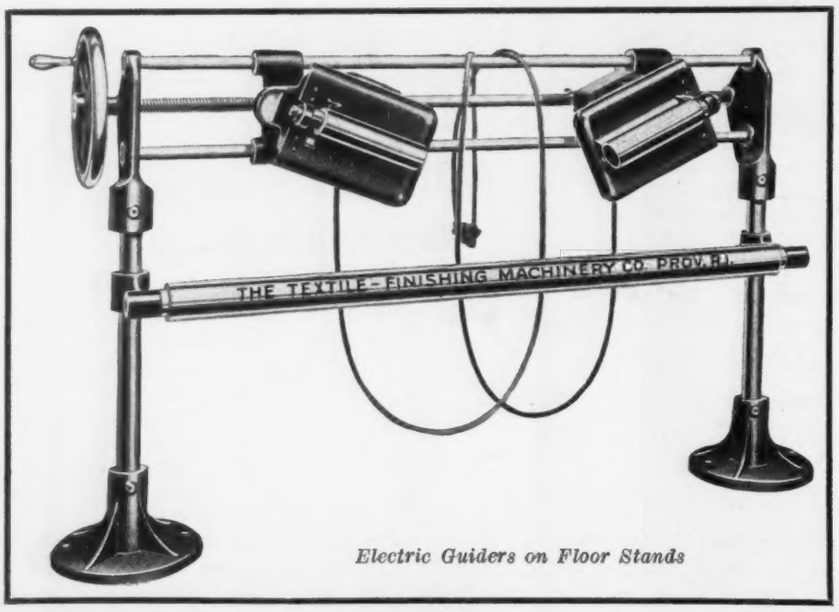

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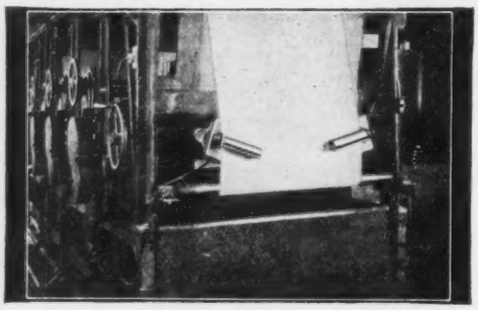

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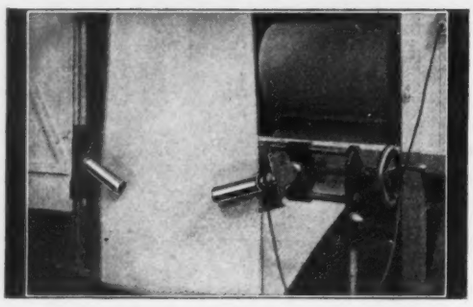

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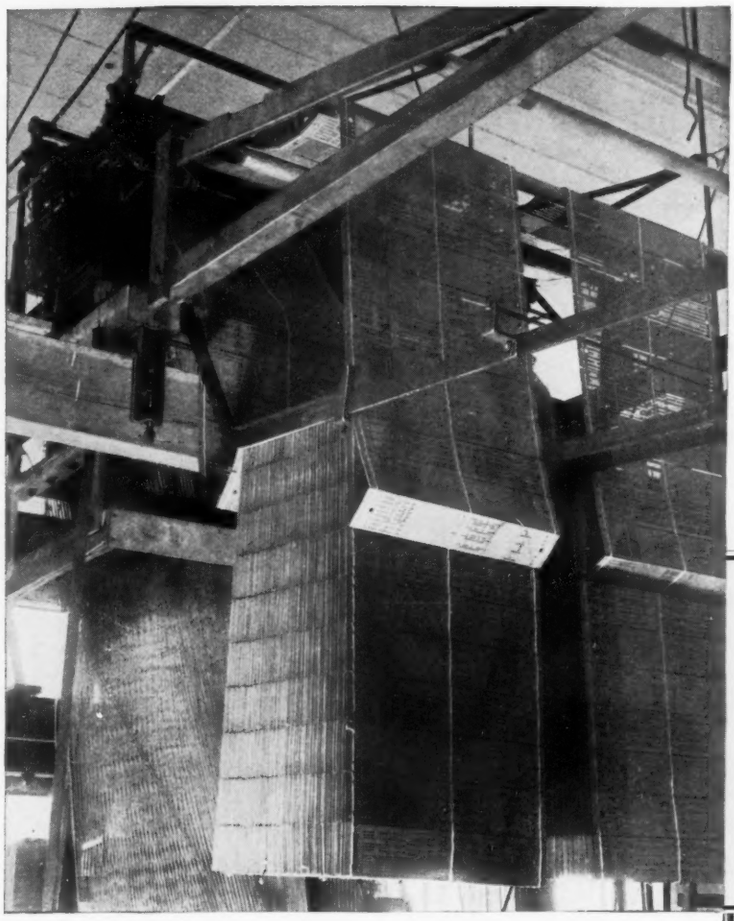

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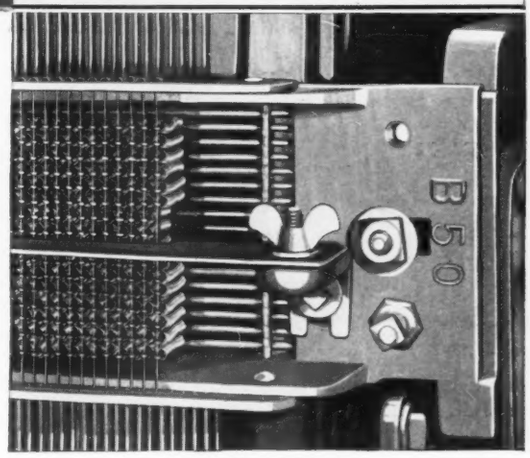

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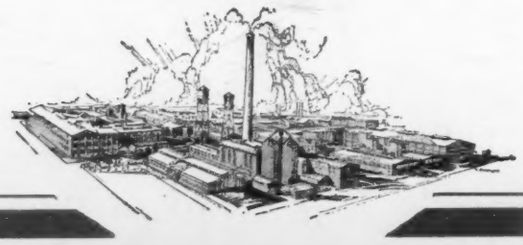

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